



ARCHAEOLOGY

Summer 1954

VOLUME 7 NUMBER 2

\$1.25

THE TOMB OF HETEP-HERES, THE MOTHER OF CHEOPS

A STUDY OF EGYPTIAN CIVILIZATION IN THE OLD KINGDOM

A History of the Giza Necropolis, Volume II

By *GEORGE ANDREW REISNER*, completed and revised by *WILLIAM STEVENSON SMITH*. One of a series of final reports on the results of the Harvard-Boston excavations at Giza, this book will provide the basic source material for any further study of the history and culture of the Old Kingdom in Egypt (2680 to 2258 B.C.).

The tomb of Queen Hetep-heres contained the only royal burial equipment which has been recovered from the Old Kingdom. Most of the objects were taken from the Queen's palace and constitute the only household furniture which has survived. The gold casing of the wooden furniture, the silver bracelets with their inlaid butterfly designs and the gold-covered box which contained them, as well as the small vessels and implements of gold, suggest both the material wealth and the good taste of the period exemplified by the builder of the Great Pyramid. The excavation and reconstruction of this material represents perhaps the most brilliant achievement of modern archeological method. This book presents a picture of the Pyramid Age comparable to that which the contents of the Tomb of Tut-ankh-amen provided for the New Kingdom. 392 illustrations. September \$35.00

A HISTORY OF THE GIZA NECROPOLIS

VOLUME I

By *GEORGE ANDREW REISNER*. This book contains all the necessary background for full understanding and appreciation of the findings reported in *THE TOMB OF HETEP-HERES*. It covers the history of the site of Giza and the researches carried out on it, beginning in 1902. It includes topographical and chronological discussion, description of the buildings, their structural details, and their decoration. 325 figures in text; 75 collotype plates; 6 folded maps. \$35.00



HARVARD UNIVERSITY PRESS

44 Francis Avenue

Cambridge 38, Massachusetts

A M
VOLUME

Ar

ARCH.
Septem
boro,
of A
chuset
Enter
Brattle
Act of
Subscr
Foreign
\$1.25
of Ar
site o
to the
mont,
Camb
Manu
advert
211 J
Miss
Copyr
of Ar
Print
boro,



ARCHAEOLOGY

A MAGAZINE DEALING WITH THE ANTIQUITY OF THE WORLD

VOLUME 7 NUMBER 2

JUNE 1954

Contents for Summer 1954

Archaeological Highlights in the John Gellatly Collection	66	PAUL V. GARDNER
An Ancient Monument of World Unity: The South Stoa at Corinth	74	OSCAR BRONEER
Les Eyzies: A Test Excavation	82	HALLAM L. MOVIUS, JR.
The Mystery Cult of Samothrace: Excavations in 1953	91	KARL LEHMANN
Mayapan, the Last Stronghold of a Civilization	96	TATIANA PROSKOURIAKOFF
Campania and Lucania in 1953	104	A. W. VAN BUREN
Sales Taxes in Ancient Athens	112	W. KENDRICK PRITCHETT
An Epigraphical Journey in Afghanistan	114	RICHARD N. FRYE
Archaeological News	119	
Brief Notices of Recent Books	123	
New Books	128	

ARCHAEOLOGY is indexed in the ART INDEX

ARCHAEOLOGY is published quarterly in March, June, September and December at 73 Main Street, Brattleboro, Vermont, by the ARCHAEOLOGICAL INSTITUTE OF AMERICA, Andover Hall, Cambridge 38, Massachusetts.

Entered as second class matter at the post office at Brattleboro, Vermont, on July 11, 1952, under the Act of August 24, 1912.

Subscription, \$5.00 per volume in the United States. Foreign postage, \$0.50 additional. Single numbers, \$1.25. Members of the ARCHAEOLOGICAL INSTITUTE OF AMERICA may choose ARCHAEOLOGY as a perquisite of membership. Subscriptions may be addressed to the publisher at 73 Main Street, Brattleboro, Vermont, or to the Business Manager at Andover Hall, Cambridge 38, Massachusetts.

Manuscripts, communications, books for review, and advertisements should be sent to the Editor at 211 Jesse Hall, University of Missouri, Columbia, Missouri.

Copyright 1954 by the ARCHAEOLOGICAL INSTITUTE OF AMERICA. All rights reserved.

Printed by The Vermont Printing Company, Brattleboro, Vermont.

EDITOR Gladys Davidson Weinberg

CONSULTING EDITOR Jotham Johnson

ASSOCIATE EDITORS
J. Alden Mason
Winifred Smeaton Thomas
Margaret Thompson

EDITORIAL ADVISORY BOARD
Bernard V. Bothmer
Linda S. Braidwood
John L. Caskey
Kenneth J. Conant
Hugh Hencken
Dorothy K. Hill
Casper J. Kraemer, Jr.
George E. Mylonas
Robert L. Scranton
A. W. Van Buren

ART DIRECTOR Lawrence McKinin



GLASS COLUMNAR FLASK. Egyptian, XVIIIth Dynasty, 1555-1350 B.C. Turquoise blue background with white and yellow dragged design. Flasks of this type, called *unguentaria*, were used for unguents, as the name implies. Note the top, in the form of a palm capital, a design which was thought by some authorities to form a collecting surface for liquid. The grace and beauty of these vessels are all the more remarkable because of the difficulties of manufacture. Since the blow pipe was not discovered until the first century B.C., it was necessary to fabricate these and similar vessels by winding and fusing the glass around a sand core. Height $4\frac{3}{8}$ inches.

MUMMY MASK. Egyptian, Roman period, first or second century A.D. The mask is of clay, with glass eyes set in. There are traces of red on the lips and of black in the hair. At the base of the neck, on both sides, are reddish violet areas, perhaps traces of a collar. The head is slightly smaller than life size.



ARCHAEOLOGICAL HIGHLIGHTS



ON THE COVER:

SCULPTURED GLASS HEAD. Late Egyptian, after 600 B.C. Dark blue opaque glass, delicately carved. In this fine head the sensitivity of the artist is clearly revealed. The extension of the upper eyelids at the outer corners of the eyes is a Late Egyptian characteristic. The square fitting at the top may have been for a headdress, probably of some material other than glass. Height $2\frac{1}{4}$ inches.

GLASS RING WITH GOLD MEDALLION [right, opposite]. Roman, second century A.D. Of dark green glass, set with a gold medallion showing in relief a seated maiden, spinning. A lamp stands on the table. Height of medallion $1\frac{3}{16}$ inches.

GLASS BEAKER. Roman, first century A.D. The mold-blown design consists of four figures in relief, standing between columns. Each probably represents a mythological character. This is a rare type of beaker; only two other examples are known and neither one has been published. Height $4\frac{7}{8}$ inches.



GOLD BRACELET [above]. Roman, second century A.D. Hollow twisted rod, shaped into a penannular hoop terminated by ornamental human heads. Hellenistic influence is evident in this piece of Imperial Roman jewelry. Greatest width $3\frac{1}{2}$ inches.

MOSAIC GLASS BOWL [right]. Roman, first century A.D. A multicolored pattern composed of pieces of glass is fused into the dark blue background. The name *millefiori*, often applied to this and similar mosaic types of fused patterns, was first used when the Venetians revived the art in Renaissance times. Height 5 inches.



IN THE JOHN GELLATLY COLLECTION

By PAUL V. GARDNER

Curator of Ceramics, National Collection of Fine Arts, Smithsonian Institution

THE JOHN GELLATLY COLLECTION, almost as famous for its diversity of material and legal entanglements as for the treasures it contains, has recently been reopened to the public after extensive renovation and rearrangement and is permanently on exhibition in the Smithsonian Institution, National Collection of Fine Arts, in Washington, D. C.

This important collection was assembled in New York City during the late nineteenth and early twentieth century by Mr. GELLATLY and his first wife, EDITH ROGERS GELLATLY, who died in 1913. First displayed at their New York mansions and later at the Heckscher Building at Fifth Avenue and Fifty-seventh Street, the collection was given by Mr. GELLATLY to the Smithsonian Institution for the nation in 1929. Terms of the gift provided for removal to Washington in 1932, where it was installed in the National Collection of Fine Arts (then called the National Gallery of Art)



GELLATLY COLLECTION continued

in the Smithsonian's Natural History Building, and formally opened to the public on June 22, 1933. Subsequently CHARLYNE WHITELEY PLUMMER, who married Mr. GELLATLY in 1930, endeavored to gain legal possession of the collection. After repeated appeals for settlement the courts finally decided, on May 5, 1947, that there was no doubt that Mr. GELLATLY fully intended to and did transfer the art objects to the Smithsonian Institution. This ended the court action. In 1952 it was decided that renovation might be undertaken. It seems particularly fitting that these art objects should have come again on view in 1953, on the hundredth anniversary of the birth of their donor, and that many of the articles he so zealously cherished are becoming more venerated and appreciated with the passing years.

The collection merits additional space, and it is hoped this will eventually be acquired; however, the present rearrangement has greatly increased the facility with which these objects may be seen, as the improved geographical and generally chronological groupings serve to bring together objects of related interest.

There are about 1640 items in the collection, now being shown in six connecting galleries. The diversification of cultures and eras represented is a testimony to Mr. GELLATLY's wide interest in world art. However, he was also energetic in aiding artists of his own day and was patriotically proud of his collection of paintings by nineteenth and twentieth century American artists. A focal point of this section is a small gallery, known as the RYDER Room, set in the heart of the collection. This room contains seventeen oil paintings by ALBERT PINKHAM RYDER, the largest single group of this artist's work in any one location, and is a tribute to Mr. GELLATLY's foresight as a collector. In a large gallery adjacent, the wall space is given to the work of other American artists and the floor area is used to exhibit decorative art objects including Egyptian and Roman glassware and ancient and Renaissance jewelry. To the east of the RYDER Room are objects from the Far East, India, and Mesopotamia. On the west and south the remaining galleries contain, for the most part, European decorative arts dating from the Middle Ages to modern times.

About one-fourth of the collection, roughly three or four hundred items, can be classed as archaeological material. Of outstanding importance in this section is a group of sixteen fragments of temple frescoes from

the Turfan Oasis in Chinese East Turkestan. These frescoes date from the eighth or ninth century A.D. and vary in size from 26 by 30 inches to 5½ by 6 inches. The Turfan frescoes were brought out of China by ALBERT VON LECOQ in the early part of the twentieth century in a series of expeditions which he records in *Auf Hellas Spuren in Ostturkistan* (Leipzig, 1926). The fresco fragments are from cave decorations described and illustrated in the seven volume publication, *Die Buddhistische Spätantike in Mittelasien* (Berlin, 1922-33). One of these fragments is illustrated in this article; it is planned to publish the entire group at a later date.

Other Chinese objects include ancient ceremonial and ornamental pieces of bronze, jade, glass, and other materials, some dating from the twelfth or eleventh century B.C. (late Shang Dynasty) and ranging from that era to the eighteenth century A.D. (Ch'ing Dynasty).

Ancient glassware comprises, numerically speaking, one of the largest sections as well as one of the most engrossing, with over two hundred items spanning the centuries from about 1500 B.C. to A.D. 1250. Most of this ancient glass dates from the first to fourth century A.D. and was made under the domination of the Roman Empire. These blown glass articles show the revolutionary advance of glass-making techniques made possible by the invention of the blow-pipe during the first century B.C. and contrast with the Egyptian flasks made by the laborious core-wound and pad-glass processes which were used before glass-blowing was known.

In another fascinating section are about one hundred and twenty pieces of ancient jewelry, including necklaces, bracelets, rings, pins, and other articles of gold, silver, precious and semi-precious stones, glass, and other materials. Many of these handsome creations invite study and and furnish a wealth of material in this special field.

It seems appropriate to mention and illustrate a few important archaeological highlights of the collection in order that these hitherto obscure objects may be brought to the attention of a wider group.

The National Collection of Fine Arts is grateful to the many scholars who have generously commented on the history of many objects in the GELLATLY Collection and particularly to those whose help has been invaluable in giving additional data on translations of inscriptions and on iconographic material.



RAKKA POTTERY. Near Eastern, twelfth century A.D. Both the bowl and pitcher are covered with a brilliant turquoise blue glaze over a cream-colored body. The black brushwork decoration is the work of a master artisan. There is some iridescence on both bowl and pitcher. Height of pitcher $6\frac{3}{8}$ inches, of bowl 3 inches.



Photographs by Floyd Kestner

ISLAMIC GLASS. Thirteenth century A.D. Both the large and small sprinkler bottles and the vase have enameled decoration consisting of inscriptions and floral and bird motifs. The band of inscription on the base is clearly seen above the broad decorative band. Surface deterioration is much greater on the larger sprinkler. Height of large sprinkler $7\frac{7}{8}$ inches, of small sprinkler $3\frac{1}{2}$ inches, of vase $5\frac{3}{8}$ inches.



SCULPTURE REPRESENTING BUDDHA. Indian, Pala Dynasty, tenth to eleventh century A.D. The sculpture, which is of black stone, comes from Bengal. In an ornate niche is the figure of a seated Dhyani Buddha in the gesture of turning the wheel of The Law, or preaching the first sermon. Above the main figure is a seated Buddha in the gesture of meditation flanked by two standing Buddhas. Below the main figure, flanking a wheel, are two deer, symbolizing the Deer Park in Benares where Buddha preached his first sermon. Height 16 $\frac{1}{8}$ inches.

GELLATLY COLLECTION continued

CARVED BONE OBJECTS [right]. Chinese, late Shang or early Chou Dynasty, twelfth to tenth century B.C. These objects, one tubular, the other trapezoidal, have patterns carved in relief with designs similar to those found on ceremonial bronzes of the period. The dark spots are remnants of reddish earth adhering to the bone. The use of these objects is unknown. Heights $3\frac{1}{2}$ inches and $3\frac{3}{4}$ inches.



BRONZE CEREMONIAL VESSEL [below]. Chinese, late Shang Dynasty, twelfth or eleventh century B.C. Well preserved surface having light green patina with russet tones. Bronze vessels of this type (*Kuei*) were used for food offerings, hence were made in a variety of forms with and without handles and feet. Most of them originally had covers. Note the animal heads as decorative features on the handles, and the two bands of ornamental casting in low relief. A three-character inscription is cast inside the bowl. The meaning of the first character is obscure but the second and third are *Fu Ting*, a quite usual formula, simply meaning that the vessel was dedicated to an ancestor named Ting. Height $5\frac{5}{8}$ inches.



ORNAMENTAL JADE PIECES [right]. Chinese, early Chou Dynasty, tenth to eighth century B.C. Pale green jade with small areas of discoloration. The exact use of these outstanding examples of carved jade is undetermined. It is thought they were ornaments of a decorative or perhaps ceremonial significance. Whether the three pieces were intended to be used together is problematical. Both sides of each object are carved with equal care and great skill. Similar mask designs are found in other carvings of the period. The upper figure has a scroll-shaped top suggestive of a high chignon, and the peculiar structure of the tusk-like teeth is unusual. The bottom figure seems to have been carved by a different artist and may not be intended as a companion piece to the others, although the peculiar tooth structure indicates it is of the same period. Heights 3 inches, $3\frac{1}{8}$ inches, $1\frac{3}{8}$ inches.





GARMENT HOOK. Chinese, Han Dynasty, 206 B.C. to A.D. 220. Gilt bronze with relief decoration of interlaced animal forms. Note the three glass inserts composed of dark blue glass with white "eye pattern". Objects of this sort are known as garment hooks, but there is no verification for their use as such. A knob projecting from the middle of the lower side about $\frac{3}{8}$ inch could fit into fabric or leather. Length $10\frac{1}{8}$ inches.

BRONZE MIRROR. Chinese, late T'ang Dynasty, ca. A.D. 850. Relief decorations at the top are clouds; on the left side the figure of a man wearing the "lotus cap" of a Taoist sage is probably P'ei Hang seated in a bamboo grove playing a lute. Before him is a low table on which are brushes in a brush stand, a shallow bowl and two scrolls. On the right is a phoenix apparently charmed by the music. At the bottom is a sea from which rise four mountains; from the center of the sea grows a single lotus stalk on the leaf of which is a tortoise in high relief forming the central knob of the mirror. Diameter $8\frac{5}{8}$ inches.

The four-character inscription in the cartouche above the knob reads "The adept and the flying hoar-frost," a phrase which has not been interpreted satisfactorily.

Apparently there must have been a pair of these mirrors because the forty-character inscription running clockwise around the mirror contains, after an introductory title, six five-character lines which form a poem describing the mirrors and the box in which they were kept, and ends with customary poetic sentiments of good wishes. Translation of the poem is as follows:

*A phoenix pair of mirrors and a southern metal box.
(Like) Yin and Yang, each complements the other,
(Like) Sun and moon they are in constant association.
White jade hibiscus (decorates) the box,
Kingfisher feathers (make) a lustrous band.
Men of like minds have their hearts in unison;
Friendship illumines the heart and illumines courage.
May you surely have a thousand springs.*





FRESCO FRAGMENT. Chinese, T'ang Dynasty, A.D. 700 to 850.

This fragment is one of sixteen in the Gellatly Collection which will be the subject of a later article. These frescoes are from the Turfan oasis in Chinese East Turkestan and appear to be from the temple at Kyzil. The figures are Bodhisattvas, as indicated by the haloes and jeweled headdresses. Note also the elaborate necklaces and bracelets as well as other ornaments. The hands are in the gesture of adoration. The face, hands and arms of the figure on the left are in flesh tones, while those of the figure on the right are dark bluish gray. The haloes and ornaments of both figures are colored olive-green, blue, buff and brown. Height 25 $\frac{1}{4}$ inches.

TOMB CERAMIC FIGURE. Chinese, T'ang Dynasty, A.D. 618 to 906. Figures of this type are generally called earth-spirits. The rather unusual form is attributed by some authorities to Sasanian influence. Similar larger figures in the Eumorfopoulos Collection in the Victoria and Albert Museum, London, have been described as having some of the characteristics of the winged griffin-lion of Sasanian art (A.D. 226 to 642). The figure is hollow and the surface appears to be covered with glaze. Height 4 $\frac{1}{8}$ inches.



AN ANCIENT MONUMENT OF WORLD UNITY THE SOUTH STOA AT CORINTH

By Oscar Broneer

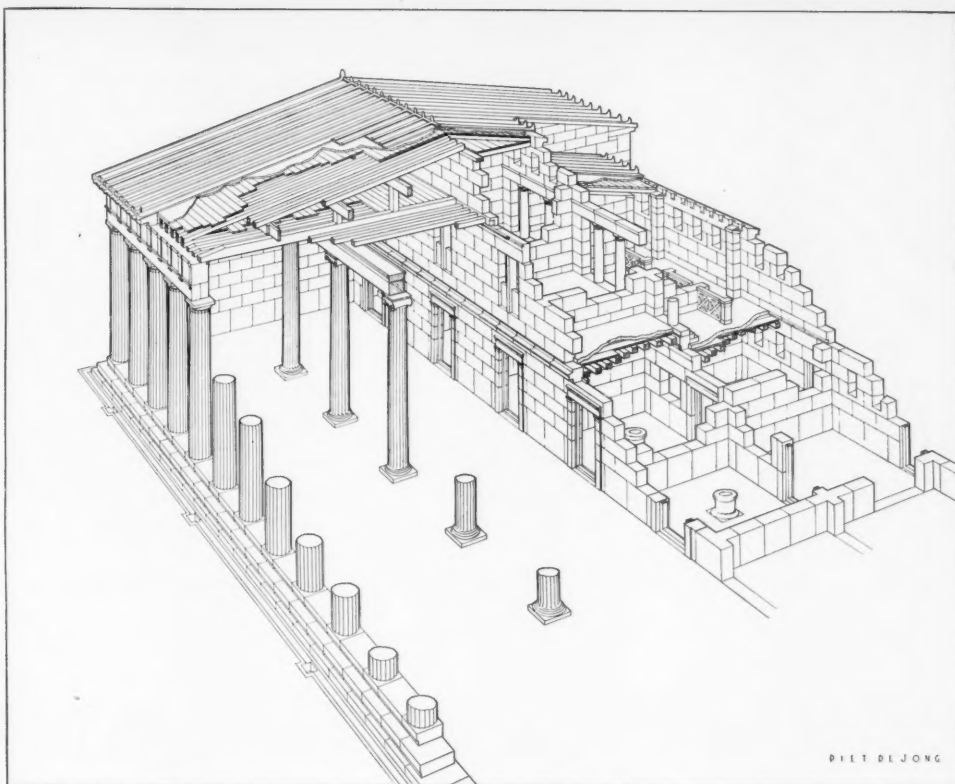
FEW STUDENTS OF ARCHITECTURE have heard of the building which is the subject of this article. We do not know what it was called in ancient times, and for want of a more specific term we have named it the South Stoa. The name points to its location with reference to the Agora, the public square, of Corinth and indicates the form of its architecture. Stoa is the Greek designation for the long colonnaded structures which commonly lined the public squares of a Greek city. Because of the simplicity of their architecture and the utilitarian purpose which they usually served, such buildings have received but slight attention, except from specialists. They cannot compete in general interest with

more glamorous creations such as temples, theaters, fountains, or even private houses.

But the South Stoa at Corinth is much more than just another colonnade. Both structurally and historically it will occupy a unique place in the history of architecture. It may seem like a contradiction in terms to speak of a building which is all but unknown as historically significant. I shall try to explain this paradox after I have described the principal features of the building.

The South Stoa at Corinth is remarkable for its size alone. It measures about 541 feet in length and 82 feet in width, and covers an area of more than one acre. Along its front, facing the public square, it had a row





East end of South Stoa [above] as constructed in the fourth century B.C. Behind the double colonnade can be seen the small shops each with a well for refrigerating food. Behind them are storerooms. Above, on the second floor, are shown some of the two-room suites.

East end of the South Stoa [left] in its present condition. The extensive ruins of the South Stoa give a very inadequate picture of the elegance of the original structure. Roman rebuilding and search for building material in mediaeval times have caused the destruction visible in this picture.

of seventy-one Doric columns, nearly nineteen feet high and with a lower diameter of a little over three feet. Behind this imposing and austere façade there were other columns, of the Ionic order, more widely spaced and remarkably slender and delicate.

This double colonnade, which was only one story high, occupied the front half of the building. The rear half was in two stories. On the ground floor were sixty-six small rooms in two rows. The rooms of the front row, which were used as shops, were entered through doorways with carved jambs and lintels and with double

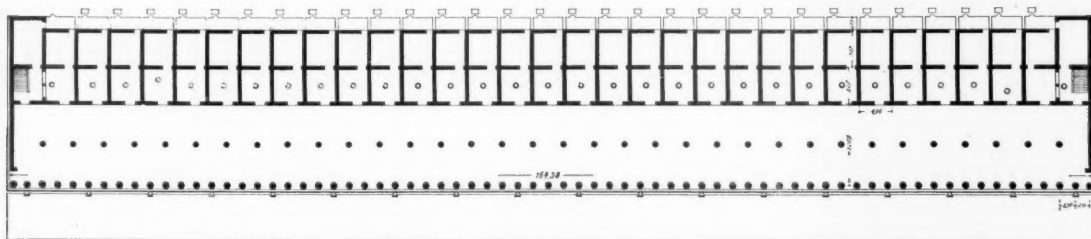
• THE AUTHOR, since 1948 Professor of Archaeology at the University of Chicago, was for many years on the staff of the American School of Classical Studies at Athens. His discoveries on the North Slope of the Acropolis in Athens, at Corinth and elsewhere have contributed substantially to our knowledge of the ancient Greek world.

Professor Broneer's work on the South Stoa in Corinth is soon to appear in final form as Volume I, iv, of the Corinth series, published by the American School of Classical Studies at Athens. He has contributed two other volumes, *Terracotta Lamps* and *The Odeum*, to this series and is the author of a book on *The Lion Monument at Amphipolis* and a number of articles in archaeological journals. He is director of the excavations at the Isthmian Sanctuary, which were begun by the University of Chicago in 1952.

doors. In the center of each shop was a well with a molded well-head of stone, to which was attached a simple device for lowering and raising objects kept in the well. At the bottom of the shaft, at a depth of about thirty feet, the wells connected with a man-made tunnel through which cold spring water flowed toward the public fountain Peirene, the principal water supply of ancient Corinth. These wells were not intended primarily to give the shop owners a convenient source of water. The shops, as we shall see, were used for the most part as taverns and the wells served as refrigera-

tors. Even in the heat of summer the temperature of the Peirene water is low enough to keep wine and victuals cool.

The shops were small: they measured only 15.74 x 14.69 feet on the inside. The rear compartments, which seem to have been used as storerooms, had the same dimensions but their ceilings were probably at a lower level. In the back wall of each shop there was a service window, and a door led from the shop into the storeroom. A door in the southwest corner of this rear room led to the outside, communicating with a small paved



Ground plan and front elevation of the South Stoa. The impressive array of seventy-one massive Doric columns lined Corinth's public square on the south.

Reconstructed section of the Stoa roof. The rain water collecting in the eaves troughs of the façade poured through two hundred and sixty-six spouts shaped like lions' heads. In addition to the spouts, antefixes and ridge palmettes in bright colors relieved the monotony of the vast expanse of tiled roof.



area designed to facilitate the disposal of garbage. In one corner of this area was a single latrine. A deep underground channel with a simple and practical arrangement for flushing carried off the sewage.

Each shop of the front row together with its storeroom and paved area of sanitation in the rear formed a single unit. There were no doors in the partitions between the units; the only entrance was from the north through the colonnade. In all but two of the thirty-three units these arrangements were identical. The two end shops were largely occupied by stairs, each with a single flight, leading to the second story. The rear compartments of these end units were larger than the others; they extended nearly five feet farther to the south. The two wings formed by these southward projections were probably intended to shield the sewage disposal areas from public view.

Above the shops and storerooms there was a second story entered by the two stairways at the ends of the building. No part of the second story is now left standing. The interior arrangements have been restored with the help of the ground plan and individual building blocks. The second story was divided into thirty-one suites of two rooms each and an entrance hall at the head of each stairway. From a corridor along the south side the occupants of the individual suites entered first a small antechamber, screened off from the corridor by curtains. From this antechamber two steps led to the higher floor level of the main room. There were no solid walls between the antechamber and the main room. One entered between two plain unchanneled columns, and the space between them could be screened off by hangings. The individual suites presumably did not communicate with each other, their only access being from the corridor on the south side. A row of windows, with solid stone screens closing the lower part, opened on the colonnade directly above the shop doors of the first story.

Such a row of individual units would make the appropriate arrangement for a hotel, and certain other details can best be explained on the assumption that the rear half of the South Stoa was designed to serve such a purpose. By comparison with other hotel buildings of ancient Greek times, the suites in the South Stoa seem both elegant and practical. The main room was sufficiently commodious to suit the taste of the times and was laid out so as to provide complete privacy. The antechamber would conveniently house servants and retainers accompanying important guests. Being placed in

the interior of the building, the rooms were sheltered from heat in summer and from cold winds in winter.

In spite of its large size and obviously utilitarian purpose, the building is an outstanding example of architectural refinement and richness. It was built entirely of common stone quarried close to the city but all the exposed surfaces were smoothly finished and covered with a hard, thin stucco of powdered marble. Details of the architecture and of the frieze and cornice, the capitals of the interior columns, the doorways into the shops and certain other interior surfaces were painted according to conventional color schemes. Terracotta tiles, a specialty of the Corinthian industry, were used for the roof. The troughs along the eaves were molded and painted in bright colors. The water spouts of these eaves troughs were in the shape of lions' heads, realistically modeled and painted. The cover tiles terminated at the eaves in antefixes decorated in bright colors, and on the ridge was a row of painted palmettes.

There were 266 lion head spouts on the façade and an equal number of ridge palmettes silhouetted against the sky. In the rear the roof was broken by a low wall, forming a clerestory with windows to provide additional light and ventilation for the main rooms in the suites of the second story.

The most remarkable feature of the building is a system of subtle curves and refinements. The Doric columns of the façade had the usual entasis. The top step (stylobate), on which these columns stand, rose in a uniform curve from the two ends toward the center. The total rise was less than six inches and this was evenly distributed and repeated in each course down to the bottom of the foundation. There was a similar rise toward the center on the short axis of the building. All the interior partitions as well as the exterior walls and columns had to be adjusted to these delicate curves of the foundations.

Refinements such as these are well known in Greek temple architecture from the sixth century B.C. and later. They are usually explained on aesthetic principles as a measure designed to soften the severe lines of Doric buildings and to counteract an impression of sagging in the center which the weight of walls and columns would produce. It was something of a surprise, however, to discover such refinements in the Stoa, which had obviously been constructed to serve a practical purpose.

To be able to decide what this purpose was, it is necessary first to establish the date of construction. On the basis of the proportions of the Doric columns and of the

architrave, frieze and cornice and from the study of profiles of the column capitals and of the various moldings, it is possible to date the building with accuracy between 350 and 325 B.C. Pottery, coins and lamps found within the building provide a trustworthy check on this chronology.

The quarter of a century in the course of which the Stoa was constructed was a critical period in the history of Greece. In the Battle of Chaironeia in 338 B.C., Philip of Macedon, the father of Alexander the Great, defeated the united Greeks and made himself master of most of the Greek peninsula. His ambition was to mold the individual city states into a united Greek nation with himself at the head. He met the representatives of the Greek states at the Isthmian Sanctuary in the early months of 337 B.C. They decided to make Corinth the capital of the new League, which was intended eventually to include all of Greece.

The policy of Philip to unite the Greeks into an All-Hellenic League was extended under Alexander into an All-World (oecumenical) movement. It was a small world by present standards, but the conception was no less revolutionary than the One World movement of the present era. The movement did not survive its originator. In the competitive struggles among Alexander's successors, the idea of a united world came to an untimely end.

During the brief span of fifteen years between the Battle of Chaironeia (338 B.C.) and the death of Alexander (323 B.C.), Corinth held the distinction of being a world capital. Since this was the time when the South Stoa was constructed, we can hardly be wrong in assuming that it was intended as a de luxe hotel to receive distinguished delegates to the League's conventions. The shops in the first story were probably leased to individual tavernkeepers and restaurateurs, while the second story provided sleeping quarters for the foreign guests.

The evidence for the use of the South Stoa during the period following the death of the League is particularly full and enlightening. Objects of imperishable material which were used in the shops were sometimes lost in the wells. And after the destruction of Corinth by the Roman general Mummius (146 B.C.) the wells became convenient receptacles for the disposal of debris from the shops. The objects which we found in the wells give us a fairly complete inventory of a tavernkeeper's establishment. There are wine jars with stamped handles, indicating from which part of the world the wine had been imported. Large bowls for mixing water with

wine—the Greeks preferred their wine diluted—and a variety of pitchers and carafes form part of the equipment. Most numerous are the drinking cups, which are of many shapes and sizes.

It was the custom at festive occasions to festoon the cups with garlands of leaves and flowers. Before they tasted the contents, the celebrants poured a few drops on the floor as an offering to some deity. It was their way of saying grace before the meal, and sometimes they offered the last drops of the drink in the same way. Many of the cups found in the wells have flowers painted below the rim and names of gods or abstract ideas scratched in the clay. These are the deities to whom the libations were offered. We learn that the Corinthian banqueters and their out-of-town guests drank toasts to Love, to the Wine God Dionysos, to Friendship and Safety, to Zeus the Savior. The most interesting of these sentiments is a toast to Pausikrepalos, the tippler's special friend who cured the effects of over-indulgence. This particular divinity was unknown until his name appeared on a cup from the Stoa.

The tavernkeepers offered other forms of entertainment to their customers. In the fourth century B.C., when the South Stoa was constructed, Corinth was famous as the entertainment center of the Greek world. On Acrocorinth, the high hill behind the city, was a famous temple of Aphrodite. Girls called "sacred slaves" were dedicated to the service of this goddess. In addition to their religious duties they served as professional entertainers skilled in the dance and in music. In the shop wells we found many broken flutes of ivory or bone which the slaves of Aphrodite had used to entertain her clients. Games of chance were also part of the attractions and several marble tables, one marked with lines and the names of the throws, came from the wells. Instead of the usual dice, the clients in the Stoa were content to roll astragals, or knuckle bones. We found dozens of such bones, smooth from long use, together with various kinds of markers.

This abundance of broken and abandoned tavern gear from the shop wells gives us a vivid picture of the entertainment business for which Corinth became famous. After the destruction of the city by the Romans in 146 B.C., the South Stoa, like the rest of the buildings, fell into disrepair. A hundred years later the Roman colony was established by Caesar. During the rebuilding of Corinth as a Roman city, the north half of the Stoa was restored and re-roofed, the shops with their storerooms in the south half were demolished and a series of ad-

Mixing bowl found in a Stoa well. The ancient Greeks drank wine diluted with water. Bowls like this were used by the tavernkeepers in the South Stoa for mixing drinks to suit their clients' tastes.

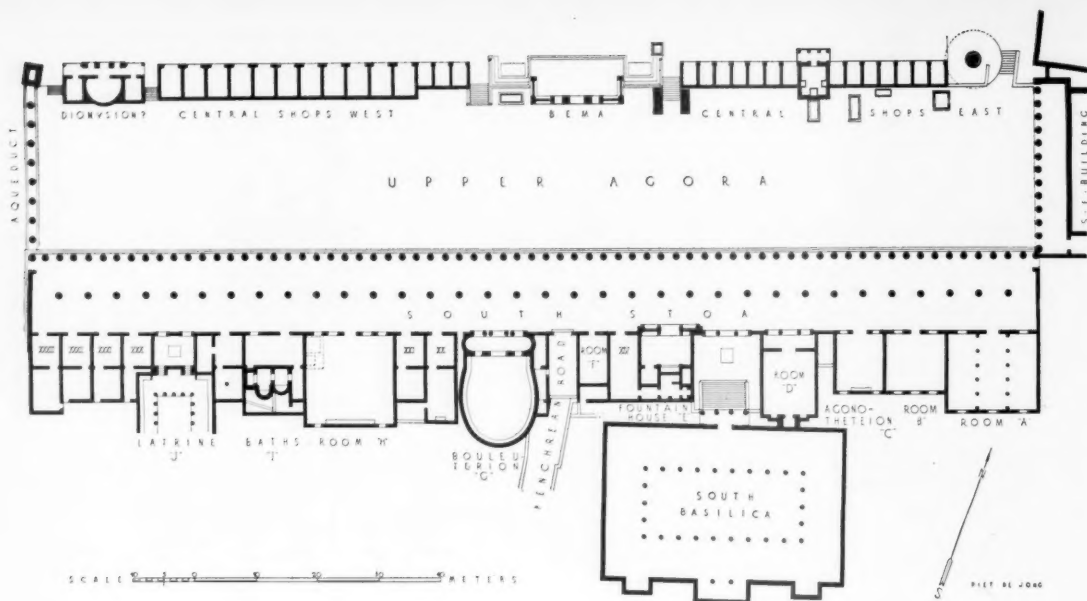


Two goblets used by the tavernkeepers in the South Stoa shops. It was the custom at festive occasions to wreath the drinking cups with flowers. Sometimes floral decoration was painted on the cups as a substitute for fresh garlands.



Inscribed drinking cups from the Stoa. The celebrants drank toasts to the gods at the beginning of their celebrations. These cups are inscribed with the names of Dionysos, the Wine God, and of Hygieia, the personification of Health.

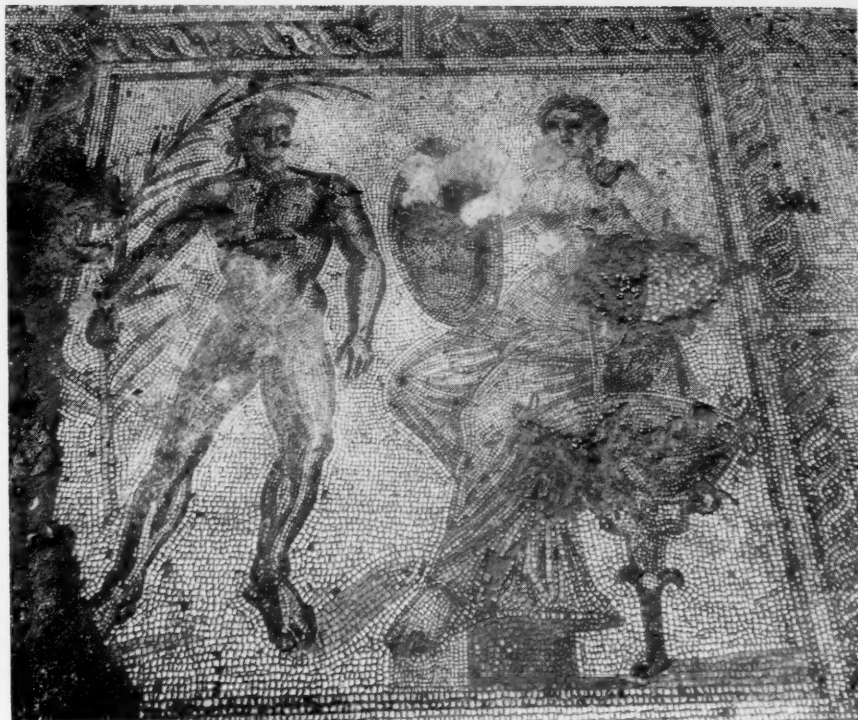




Plan of the south half of the public square [above] in Late Roman times. By the second century after Christ the shops with their rear compartments had been largely demolished and administrative buildings erected in their place. The colonnade in front remained standing until the end of the third century.

The public square of Corinth [right] with the Council House in the foreground. To the right of the elliptical structure is a paved roadway leading toward the south, in the direction of Kenchreai, Corinth's East Harbor.





Athlete mosaic in the Agonotheteion. The athlete, fresh from his victory in the Isthmian Games, has come to render thanks to the Goddess of Good Fortune. Proudly he displays his badges of victory, the palm and wreath.

ministrative buildings erected in their stead. Most prominent of these structures is the elliptical Council House and the office of the *Agonothetes*, Director of the Isthmian Games. The mosaic floor of the latter contains a central panel which depicts an athlete wearing the victor's crown of celery and holding the palm leaf in his hand. He stands before a seated figure of Eutychia, the Goddess of Good Fortune, to whom he renders thanks for his victory.

The later history of the South Stoa is interesting chiefly as an example of the versatility of the new settlers in adapting the Greek buildings to the requirements of a Roman city. The prominent façade of the Stoa remained standing until another destruction, at

the hands of the Herulians from east central Europe, overtook Corinth in A.D. 267. After that the Stoa ceased to exist as an independent building. Among its ruins were constructed motley shops and private dwellings. Later generations retained in their memories a distorted picture of the era when Corinth attracted the world's pleasure seekers, and gave occasion for coining the proverb: "'Tis not for every man to sail for Corinth." The ruin of the South Stoa, once the scene and center of Corinthian gayety, has at last yielded up its secrets. It remains the most conspicuous monument to another distinction held by the city, when for a brief period Corinth played host to the planners for a One World government.

LES EYZIES

A TEST EXCAVATION

By Hallam L. Movius, Jr.

Associate Professor of Anthropology
Peabody Museum of Harvard University

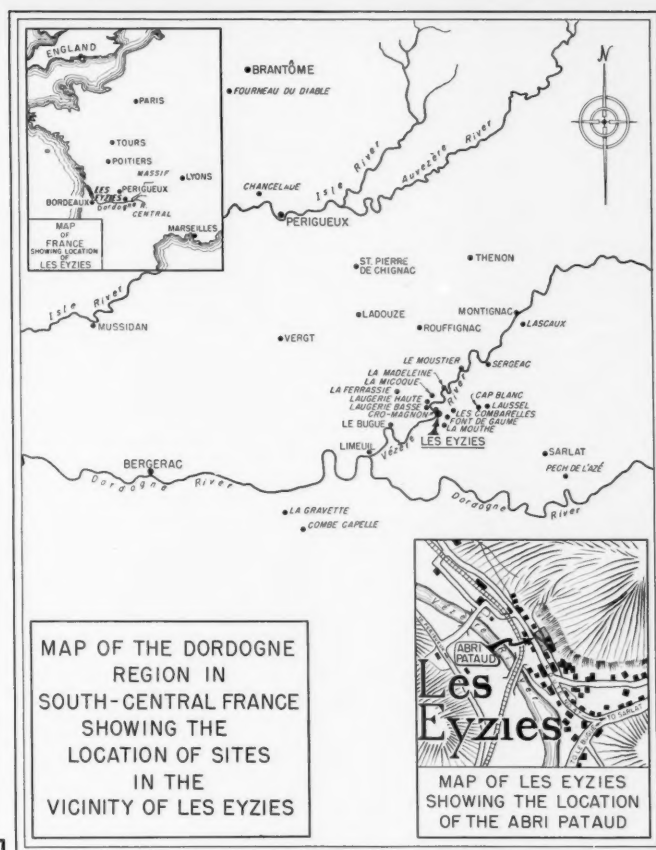
THE PRIMARY OBJECTIVE of the expedition sent out in 1953 by the Peabody Museum of Harvard University to south-central France was to conduct a test excavation for the purpose of determining the sequence of Upper Palaeolithic occupations represented at a large rock-shelter, known as the Abri Pataud and situated near the center of the small village of Les Eyzies in the classic Dordogne region (FIGURE 1). During the course of a reconnaissance trip in the summer of 1949, the writer became impressed with the potentialities of this site in connection with a proposed research project on the fundamental problem of Upper Palaeolithic culture dynamics. It was believed that at the Abri Pataud all the factors essential for such an undertaking were present. Before proceeding further, however, it was apparent that a sounding trench should be dug to investigate the archaeological, palaeontological and geological aspects of the deposits. This was accomplished during July and August of 1953 with significant results.

Recent work in France has clearly demonstrated that the Aurignacian succession is much more complex than was originally suspected. Indeed, until the early 1930's the Upper Palaeolithic sequence in Western Europe seemed fairly straightforward: Aurignacian, Solutrean and Magdalenian, just as set forth in all the standard text-books on the subject. Few authorities have ever agreed either on the dates that should be assigned to these major divisions, or on their correlation with the various stages of the last Alpine glaciation. At the upper end of the sequence the final development of the Magdalenian probably took place between ca. 10,000 and ca. 8,000 B.C., but in suggesting that the transition from the Mousterian to the Aurignacian occurred some 25,000 or so years ago, one does so with full realization that this is no more than a guess-date unconfirmed by Carbon 14 measurement. Three subdivisions of the original Aurignacian classification were recognized: *Lower*, characterized by large curved points with blunted backs, known as Châtelperron points; *Middle*, with

the split-base bone point, the busked graver, the strangulated blade, and steep-ended scrapers (FIGURE 9); and *Upper*, of which a straight point with blunted back, apparently evolved from the Châtelperron type and known as the Gravette point (FIGURE 8, below), was typical. This latter stage immediately preceded the Final Aurignacian with its tanged Font Robert point and diminutive multi-angle graver, known as the Noailles burin (FIGURE 8, above). The latter was followed in turn by the Solutrean. But the problems of just what constitutes the Aurignacian of the old classification and where its various components originated still remain obscure. At two of the largest and most carefully excavated localities in the Dordogne—La Ferrassie and Laugerie-Haute—M. DENIS PEYRONY has recognized levels previously unreported in the region. This evidence suggests that the Aurignacian is an infinitely more complicated series of assemblages than was hitherto suspected. In fact, PEYRONY recognizes two separate traditions: *Périgordian*—Lower (Châtelperronian) and Upper Aurignacian (Gravette/Font Robert-Noailles) of the original system; and *Aurignacian*—Middle Aurignacian of the old classification.

PEYRONY's fundamental thesis is that in its later stages the former coexisted with the latter, suggesting the possibility that they represent the cultural traditions of two separate races. For he associated the Périgordian with Combe-Capelle man, discovered in the Châtelperron (Lower Périgordian) level of that site, and the Aurignacian with Cro-Magnon man, found at the famous Les Eyzies locality. Except for these two associations, however, there is no other evidence to support PEYRONY's theory of assigning the two traditions to two racial groups. It was for the express purpose of throwing further light on these basic problems, arising from the results of PEYRONY's investigations, that the Abri Pataud project was originally conceived.

As shown on the accompanying map (FIGURE 1), the Abri Pataud is located on Departmental Route No. 47, approximately 250 meters from the Hotel Cro-Magnon



(built in the famous rock-shelter), midway between the hotel and the center of the village of Les Eyzies. In other words, it is in the very middle of the "prehistoric capital of Western Europe." Some of the most famous Palaeolithic localities that have ever been found are in the valley of the Vézère River, which flows through Les Eyzies before joining the Dordogne River at Limeuil. The latter drains the western flanks of the Massif Central, which were extensively glaciated during Pleistocene, or Ice Age, times.

In the vicinity of Les Eyzies the Vézère Valley is clearly defined by high limestone cliffs which dominate the region and at the base of which, in caves and rock-shelters, Palaeolithic hunters had their camps (FIGURE 2). The Abri Pataud is one of the largest sites in the region (FIGURES 3 and 4), and the only one still largely unexcavated. The reason is that it has a farm

built on it and furthermore, it is a protected monument.

The deposits filling the Pataud rock-shelter descend in a moderately steep slope from the cliff to Route 47 and extend parallel to the latter along the cliff for 88.50 meters (FIGURES 1 and 5, inset). The average width of the site is 30 meters. Against the cliff is built a farm house, a barn and a shed, while a large cave in front of the house is used for storage. One small road, maintained by the Commune of Les Eyzies, passes the farm at the base of the cliff, while a second dirt road mounts diagonally across the property, connecting the farm with Route 47 (FIGURE 4).

The extraordinary archaeological wealth of the Abri Pataud, also referred to in the literature as the Abri-sous-Roche de Marsaudou and La Croze de Tayac, was established over fifty years ago by the famous French prehistorian, EMILE RIVIÈRE, who described a two-day

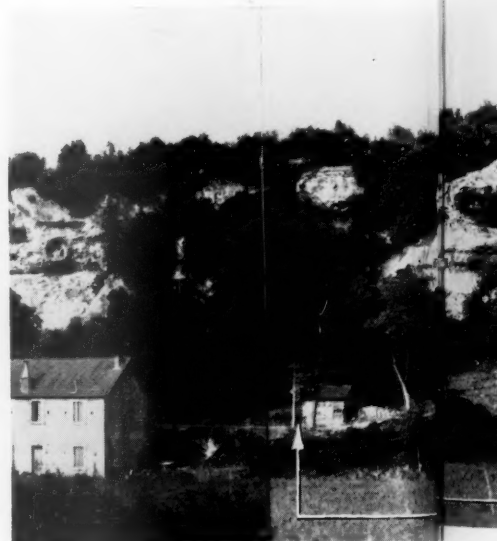


2. View of the Vézère Valley [above] looking downstream and showing the low terrace which, next to the limestone cliffs, is the most prominent physiographic feature in the region. The railroad bridge in the right foreground is immediately opposite the Abri Pataud, and from it was taken the panorama shown in Figure 3.

3. Panoramic view of the Abri Pataud [right] taken from the railroad bridge shown in Figure 2. This enormous rock-shelter, which faces WSW, is 88.50 m. long and approximately 30 m. wide. The arrow indicates the location of Trench I. Compare with top-plan shown as inset in Figure 5.

dig he did there in April of 1899 (*Association Française pour l'Avancement des Sciences*, 1899, page 294; 1901, 756-62; 1906, 773-98). The site was also known to Dr. LOUIS CAPITAN (*Assoc. Fr. Av. Sci.*, 1902, 268-69) and M. LOUIS GIRAUX, according to the Abbé BREUIL; both of these acquired large series of objects collected by the proprietor, and by M. FONTANET-LARUE of Les Eyzies. Indeed, RIVIÈRE (*Assoc. Fr. Av. Sci.*, 1901, 757) mentions that a considerable number of flint artifacts were recovered when the cut in the slope for the small road from the main route to the farm was dug. Actually, it was the several occupation layers still exposed in the bank on one side of this road that first attracted the writer's attention.

Excavations at the Abri Pataud were conducted between July 3 and August 22, 1953. Two test trenches were laid out on a line at right angles to Route 47 and the corner of the barn on the Pataud farm, that is, approximately at right angles to the cliff face. Trench I, one meter wide and thirteen meters long, extends from the drainage ditch at the edge of Route 47 to the small farm road which mounts the slope diagonally (FIGURES 6 and 7). It was divided into six sections A-F, each two meters long; Section G (the topmost division) was approximately one meter long from the twelve meter line to the edge of the farm road. In Sections E, F and G, evidence of three former excavations, two of which appear on the section (FIGURE 5), were found. Possibly one of these holes was dug by the proprietor;



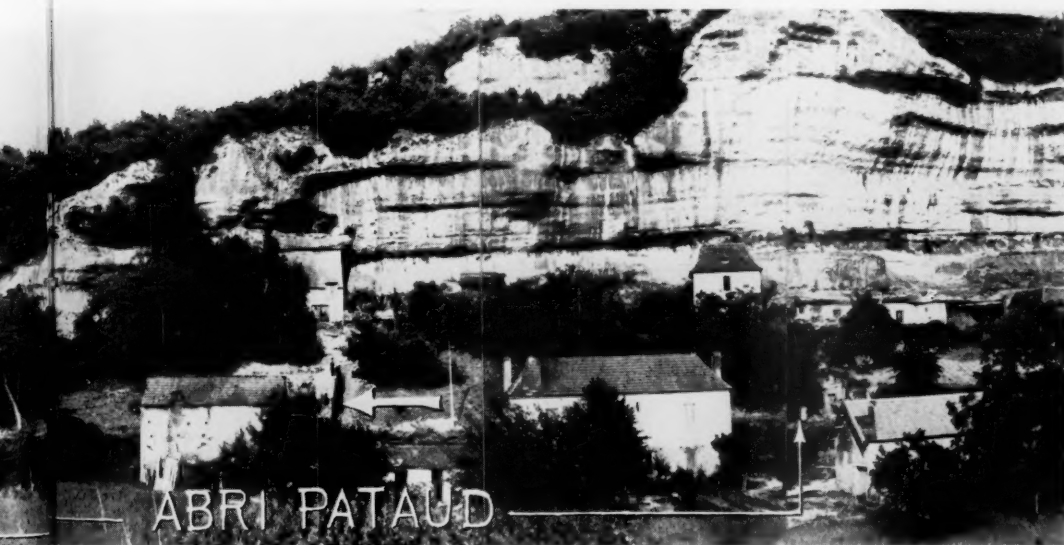
another may be attributed to RIVIÈRE. No occupation layers were exposed in Trench I. Here the deposits had all accumulated on the slope in front of the actual rock-shelter. Most of the debris was accumulated as the result of the weathering of the cliff face under Late Glacial climatic conditions. Further material was continually being washed down from the slope above the cliff where Lower Tertiary "siderolithic" pockets in the Cretaceous limestone provided a ready source for the micaceous sand noted in several layers. On exposure to the air the deposits forming the walls of the trench hardened to a depth of five or six centimeters, as a result of which it was possible to excavate safely to a depth of over seven meters. The stratigraphic sequence in Trench I (see section, FIGURE 5) may be summarized as follows:

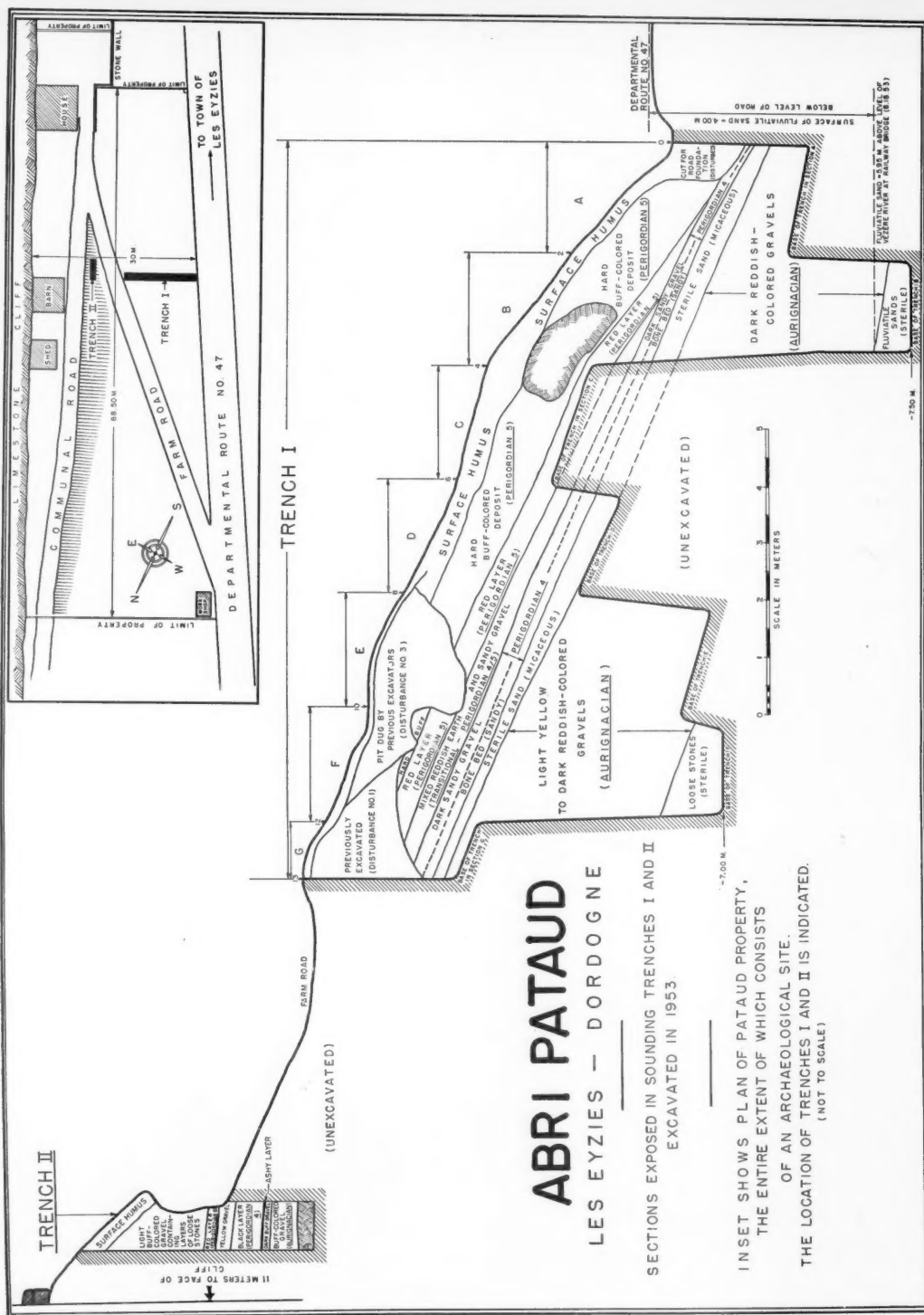
a) **SURFACE HUMUS** (thickness from 0.35 m. to 0.70 m.) Dark sandy humus, extremely rich in derived flint artifacts (including two fragments of Solutrean laurel-leaf points), associated with glass, porcelain, tile and iron objects.

b) **HARD BUFF-COLORED DEPOSIT** (average thickness one meter but up to 1.50 m. in places.) This very compact, gritty, light buff-colored earth contains many irregular limestone pebbles, rocks, and boulders. It yields relatively few flint artifacts. Those found suggest an evolved sort of Périgordian 5 development with Noailles burins that have very small shoulders on the sides in place of notches.



4. These cliffs, which face WSW, dominate the town of Les Eyzie. At the Abri Pataud they provided shelter for successive groups of Upper Palaeolithic hunters, who camped at their base.





c) RED LAYER (thickness 0.45 m. to 0.50 m.) In this deposit there are many small and medium-sized, angular or sub-angular limestone fragments in a coarse, gritty, reddish matrix. It is very rich in typical Périgordian 5 artifacts and animal bones, among which the reindeer (*Rangifer tarandus*) is predominant. In this layer a very fine series of typical Noailles burins (FIGURE 8, above) was found.

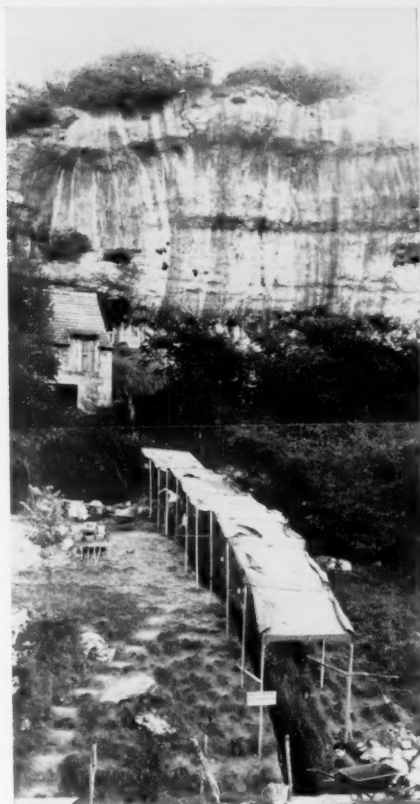
d) MIXED REDDISH EARTH AND SANDY GRAVEL (thickness 0.40 m. to 0.50 m.) This deposit, yellowish gray in color, is similar to the overlying red layer, but easily distinguished by its color. The industry appears to be transitional between Périgordian 4 and 5. Noailles burins are more numerous in the upper part than in the lower levels, whereas the reverse is true of the Gravette points. Throughout, this stratum contains a rich fauna with reindeer again predominating.

e) DARK SANDY GRAVEL (thickness 0.25 m.) Dark gritty sand with many fragments of limestone. This deposit contains more flint artifacts and animal bones than any of the overlying horizons. The former clearly belong to the Périgordian 4 stage, with a large number of Gravette points (FIGURE 8, below), while the faunal remains consist almost entirely of reindeer.

f) BONE BED (thickness 0.20 m.) Actually this consists of the basal portion of the dark sandy layer, and is distinguished from it only on the basis of the exceedingly high content of reindeer bones which it contains. The industry consists of larger and coarser implements than those from the dark sandy layer, but nonetheless is typically Périgordian 4. Several thousand individual reindeer are represented by the bones and teeth from this horizon, the majority of them being animals two to three years old.

g) STERILE SAND (thickness from 0.20 m. to 0.50 m.) Light buff-colored coarse gritty sand with large mica particles and a few limestone pebbles. The upper ten to twelve centimeters of this deposit contain many reindeer bones intrusive from the overlying horizon. A few flint implements and animal bones occur in this sand; they seem to be of Upper Périgordian type.

5. Plan [opposite page] and sections of trenches excavated in 1953.



6. Trench I, which was laid out at a right angle to Departmental Route No. 47 and in line with the south wall of the Pataud barn. The tents, originally erected as protection against the rain, were retained for shade during the summer.

7. Trench I as seen from Departmental Route No. 47 at the end of the first two weeks of excavation.



h) LIGHT YELLOW TO DARK REDDISH-COLORED GRAVEL (thickness approximately 3.30 m.) This is a slope deposit which consists of pebbles, stones and boulders in a coarse gritty, sandy matrix. The upper and lower zones are of a light yellowish color, but the main portion is dark reddish in color. Throughout it yields typical Aurignacian flints (FIGURE 9), and the associated fauna is characterized by the horse, in marked contrast with the wealth of reindeer bones associated with the Upper Périgordian 4 and 5 material in the overlying levels.

In Section F these gravels rest on a talus formation of loose stones with open spaces between them. Here the trench was dug to a total depth of seven meters. It was impossible to dig deeper in a trench only one meter wide, but it is probable that older horizons occur below the talus.

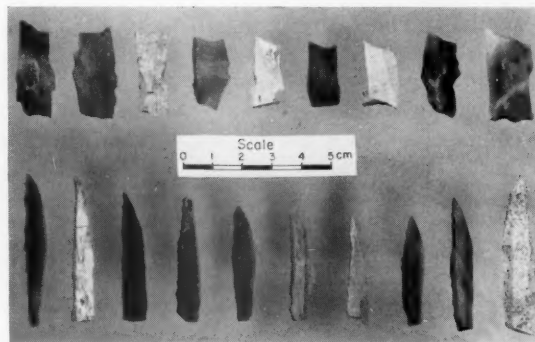
In Section B, which was dug to a depth of almost 7.50 m., the Aurignacian gravels directly overlie finely bedded, dark gray, fluvialite sands of the six-to-seven-meter terrace of the Vézère Valley. This feature, which is extensively developed in the region (compare FIGURE 2), can be followed downstream to the Dordogne Valley, where it likewise constitutes a very prominent morphological feature. In any case, the occurrence of this formation at the base of the deposits in Section B at the Abri Pataud provides the vitally important direct tie-in with the local Late Glacial geologic sequence. For it is probable that careful geological mapping in the Dordogne Valley will make it possible to link this terrace with a late stage of the Würm Glaciation of the Massif Central.

As previously stated, all the deposits which were exposed in Trench I are slope deposits; none of them can be regarded as true occupation layers, notwithstanding the wealth of archaeological material which they contain. Indeed, the flint implements and animal bones they contain accumulated on the slope in front of the rock-shelter during the time the site was occupied. It is known that true occupation layers are extensively developed at the Abri Pataud, although it was possible to make only a very small sounding, designated Trench II, in this portion of the site during 1953.

Trench II, in two sections (X and Y, each two meters long and approximately eighty centimeters wide), was situated on the opposite side of the road from Trench I (FIGURE 10). The long axis of Trench II was at right angles to Trench I, but its northern end was on the main section line, as shown on the plan (FIGURE 5).

Here an interesting assemblage of typical Périgordian 5 artifacts was found in a red layer eighteen centimeters thick, which was separated from an exceedingly thick and very rich black sandy horizon (Périgordian 4) by twenty-eight centimeters of yellow gravel. The latter was archaeologically sterile, but the black sandy horizon was by far the richest single level at the site. It averaged fifty-five centimeters in thickness and produced several thousand flint artifacts. At its base there occurred an ashy layer—apparently the edge of a large hearth—which was five to seven centimeters thick. Beneath was a sterile dark buff-colored deposit (0.15 m. thick), and in the underlying gravels the same Aurignacian industry was found as in the basal portion of Trench I. A series of fallen limestone blocks made it necessary to abandon the digging in these buff-colored gravels at an average depth of fifty centimeters. It is probable, however, that there are over eight meters of deposit in this area of the site that are still unexcavated.

The large series of flint artifacts recovered from Trenches I and II were kept separate, not only on the basis of the deposits or layers in which they were found, but also by arbitrary subdivisions of these larger stratigraphic units. In the preliminary sorting three categories were differentiated: (a) retouched implements, together with a select series of blades, flakes and cores; (b) unworked blades and flakes, plus the better made cores; and (c) trimming flakes (*débitage*) and rough cores. Categories (b) and (c) are stored in Les Eyzies, but the material in Category (a) is now at the Peabody Museum on loan for study. Briefly, it indicates a long

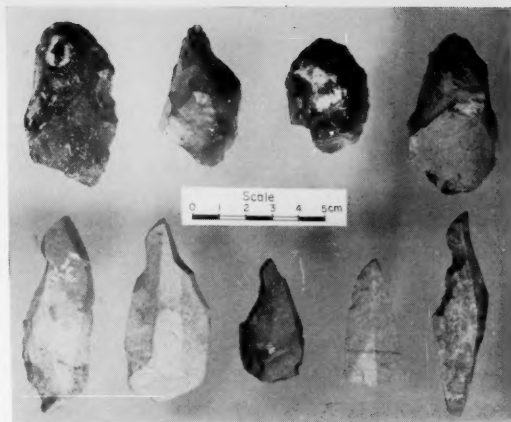


8. Implements from the Upper Périgordian levels at the Abri Pataud, Les Eyzies (Dordogne). Above: Noailles burins typical of Périgordian 5. Below: Gravette points typical of Périgordian 4.

Aurignacian occupation, followed by an interval when the site seems to have been temporarily abandoned. Upper Périgordian hunters, whose meat diet consisted almost entirely of reindeer, then settled at the Abri Pataud. Both the Périgordian 4 and 5 layers, together with the transitional level between these two horizons, indicate occupations of considerable importance. But this is not all, for PEYRONY (*Assoc. Fr. Av. Sci.*, 1909, page 139) clearly states that "behind the Pataud barn, near the cliff and at the side of the road which passes there, there has been found a Solutrean level, which has furnished many magnificent laurel-leaf points, two proto-Solutrean points, together with end-scrapers, burins, etc." Furthermore, the same authority (*Gallia*, 5 [1947] 181; *Le Périgord préhistorique*, 1949, page 28) has recorded a Mousterian horizon on the property immediately adjacent to the Abri Pataud and beside Route 47. By combining these observations made at different places with the area of this large rock-shelter, the following stratigraphic sequence, beginning with the uppermost level, is obtained:

Solutrean,
Upper Périgordian 5 (Noailles Burins),
Upper Périgordian 4-5 ("Transitional"),
Upper Périgordian 4 (Gravette Points),
Aurignacian,
Mousterian.

The mammalian material thus far recovered is very well preserved, and compares favorably with that found at other sites in western Europe. Similar collections have been made at various localities, including Laugerie Haute, Isturitz and Castillo, but in each case the studies on the material are incomplete. BOUCHUD's study to date of the vertebrate remains found at the Abri Pataud in 1953 indicates that remains of the horse (including a very large type) predominate in the Aurignacian levels, whereas over ninety-five percent of the faunal material associated with the Upper Périgordian development consists of reindeer. Two- to three-year old individuals were preferred by the Abri Pataud hunters, and an analysis of the teeth discloses that the animals were killed during all months of the year. Hence the site was continuously occupied. The summer was the most important season for hunting, with a secondary season in the winter. Comparatively few animals were killed during spring and autumn. It is anticipated that important additions to scientific knowledge will result from a detailed study of the faunal remains from this impressive locality.



9. Aurignacian Implements from the Abri Pataud, Les Eyzies (Dordogne). Above: Steep-ended or carinate scrapers. Below: Busked graters or *burins busqués*.

THE ABRÍ PATAUD SITE should be ranked among the most significant and important Upper Palaeolithic occurrences in western Europe, not only because of the archaeological and palaeontological evidence, but also from a geological viewpoint. Indeed, the locality is ideally situated in every possible respect, and the fact that surface indications show the cliff to be undercut for a considerable distance means that the deposits are even more extensive than is indicated on the plan. Furthermore, since the base of the section was not reached in the 1953 test trench, it is likely that even older occupations—Early Périgordian (Châtelperronian) and probably Mousterian (according to PEYRONY), or both—will ultimately be demonstrated. But a definitive answer to this question can be provided only by more extensive excavation at the site. The salient fact remains, however, that even if the only occupations of the Abri Pataud prove to be those represented by the materials so far excavated, the site must be regarded as among the largest and richest Upper Palaeolithic rock-shelters ever recorded in western Europe.

Geological examination and mapping of the terraces of the Vézère-Dordogne drainage system, as well as a detailed study of the successive soil horizons exposed at the site, must provide the background for interpreting the archaeological and mammalian materials. Indeed, the complexities of interpretation of the Abri Pataud make it clear that for a proper solution it is of fundamental importance that regional studies of Pleisto-



LES EYZIES CONTINUED

10. Three archaeological horizons found in Trench II: (a) Périgordian 5 (indicated by the one meter photo scale); (b) Périgordian 4 (the dark layer 0.55-0.60 m. thick; and (c) Aurignacian (the horizon on which the man is standing). From this point back to the cliff face, a distance of over 11 meters, the archaeological horizons are *in situ*.

cene geology, recent geomorphology and archaeology should go hand in hand with the actual excavation of the site. It is obvious that close field collaboration of the archaeologist and the geologist (or geomorphologist) is essential. In other words, the excavation program should not be subordinated to the regional studies, but integrated with them. Particular projects should include mapping of the terraces in the Vézère-Dordogne drainage system; detailed investigation of the glacial sequence in the Massif Central and its relation to these terraces; and studies of the Late Glacial and Early Post-Glacial peats in the area, and their relationship to the glacial deposits. For since the hunting cultures of the Upper Palaeolithic were in considerable measure adjusted to the environment, it is of primary importance to have as complete data as possible on the contemporary natural conditions. This information can only be provided by specialists in various fields of the natural sciences working as a team toward the solution of a specific problem in Palaeolithic archaeology. At the Abri Pataud all the features essential for a team approach to the problems of Upper Palaeolithic culture dynamics are present. These are: a long record of successive occupations; a very rich sequence of assemblages of archaeological materials; abundant faunal remains; a series of successive contrasting soil horizons for pedological analysis; a substantial amount of ash and charcoal for palaeobotanical study and for dating the successive horizons by the Carbon 14 method; a direct tie-in with a clearly

defined Late Glacial geologic formation, that is the six-to-seven-meter terrace of the Vézère, as previously discussed.

On the basis of these facts it seems apparent that if excavations at the Abri Pataud can be continued on a full-scale basis, new and important information on the development of culture in the Upper Palaeolithic period will be brought to light.

• THE WRITER EXPRESSES his gratitude to the following: the International Business Machines Corporation and the George Grant MacCurdy Fund of the Peabody Museum of Harvard University for financial support; Mesdames Marie Selves and Alice Constant for permission to excavate on their property; the Direction de l'Architecture of the Ministère de l'Éducation Nationale of France for their generous authorization to conduct the excavation subject to the same regulations as those normally imposed on French archaeologists, and to bring all the Category (a) material to the Peabody Museum for study; M. Séverin Blanc, Director of the VII^e Circonscription des Antiquités Préhistoriques, for his invaluable and expert advice; Miss Vivian Broman (Radcliffe College), Dr. Clark Howell (Washington University), Mr. Lee Hubbard (University of Chicago) and my wife, for their able assistance in the field; M. and Mme. Jean Bouchud of the Centre National de la Recherche Scientifique in Paris for their expert study of the mammalian remains; M. and Mme. François Bordes of the same institution for their invaluable assistance; M. Elie Peyrony, Conservateur du Musée des Eyzies, M. A. Minier, Trésorier de la Société des Amis des Eyzies, and M. and Mme. Gabriel Leysalles, proprietors of the Hotel Cro-Magnon, for their advice and help. Finally, I wish to thank Professeur Henri Breuil, Membre de l'Institut, Professeur H.-V. Vallois, Membre de l'Académie de Médecine and Directeur du Musée de l'Homme, and Mr. Harper Kelley of the Musée de l'Homme, for their cooperation and sympathetic support.



Half of the lower part of a large floral akroterion of marble. It once crowned the apex on the rear of the "New Temple." Many fragments of the magnificently worked scrollwork, flowers and leaves were found, dating from the Hellenistic period.

THE MYSTERY CULT OF SAMOTHRACE

EXCAVATIONS IN 1953

By Karl Lehmann

DIRECTOR, ARCHAEOLOGICAL RESEARCH FUND OF NEW YORK UNIVERSITY

THE SANCTUARY OF THE GREAT GODS again was the site of excavations during the summer of 1953. A survey of major results of the 1952 campaign appeared in *ARCHAEOLOGY* 6 (1953) 30-35. During this, our eighth campaign, we devoted ourselves to three tasks: completion of the excavation in the main area of the sanctuary, further cleaning and systematic arrangement of this area, and enlargement of the local museum.

We concentrated on exploring the area adjacent to the eastern side of the "New Temple," the early Hellenistic Doric marble building that dominates the southern part of the sanctuary. The eastern periphery of the ruin was freed of debris containing numerous blocks from its superstructure, and these were assembled on the eastern foundation and nearby. We excavated a broad strip along the east side of the building without finding any traces of other structures. It appears that the crowded areas of the sanctuary ended here, and that the hillside between the "Temple" and the east entrance to the sanctuary, from the propylon (gateway) built by Ptolemy II, was occupied by a sacred grove.

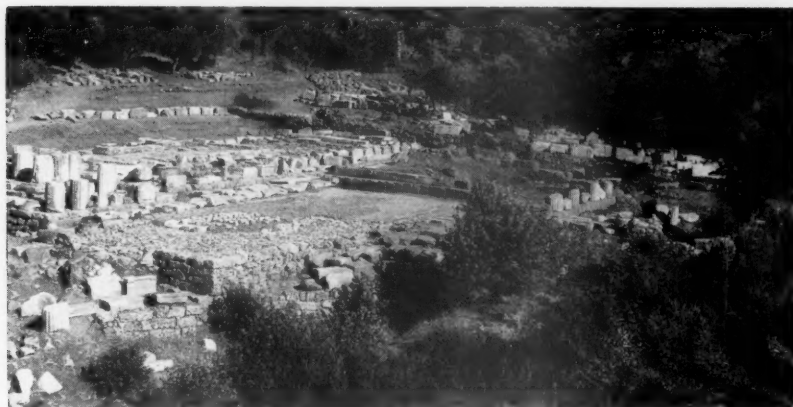
A discovery of considerable importance was made east of the northern part of the cella of the "New Temple." Outside its foundations and near them we found a curious assemblage of stones. In the center is a square limestone block with a deep central hole for the insertion of a tall vertical object—a monumental torch, we assume, in view of other evidence from Samo-

thrace. Flanking this symmetrically on the north and south are two other stones (each about twenty inches distant from the central stone). The one to the south is a roughly cut marble block such as might have been used for a step or threshold. Its surface, which shows traces of long exposure and use, lies at a level considerably below that of the "New Temple." The similar block at the north was found beneath another roughly cut block at a higher level. The evidence shows that the original pair of stones was replaced twice, the surface of the top pair being at the floor level of the Hellenistic building. At the time these last were set in place, both stones were enclosed by frames made of large roof tiles inserted on end into the ground, a device to contain the floor beneath and around the upper level. We assume that these three levels correspond to the three major building periods of the "Temple."

We have, then, two sacred stones which flank a torch, and evidently are of ritual significance. Analogies to such stones seem to be offered by the two stones on which the accuser and the accused took their stands in the Court of the Areopagus, as ancient authors describe them, and the witness stones used in trial procedures qualifying magistrates in Athens. In the latter case, the candidates stood on these stones to swear their oath. Inasmuch as oaths of allegiance and pledges to secrecy were common in mystery initiations, one may imagine that the stones we have discovered were used for a "sacred trial" connected with initiation into the higher

SAMOTHRACE

continued



The "Anaktoron" [top], the hall used for initiation into the Samothracian mysteries. Built around 500 B.C. and used in its archaic but slightly remodeled form for about nine hundred years, it was rediscovered in 1938, and is now the first building in view as one approaches the excavation.

The southern part of the Sanctuary [bottom], now fully excavated. Across the ravine which forms the heart of the sanctuary appears the archaic "Hall of Votive Gifts" (with corner-foundation in foreground restored); behind it the "New Temple," an early Hellenistic marble structure, which served for the higher degree of initiation; at the right the ruin of the Great Altar Court dedicated by Arrhidaios, Alexander's half-brother.

"Sacred Stones" [right] discovered near the "New Temple." The central stone, it is assumed, supported a monumental torch or candelabrum lighting the nocturnal ceremony. On the other two stones presumably stood the priest and an applicant for the higher degree of initiation during a sacred trial.

degree, the *epopteia*, which took place, as we have concluded from other evidence, in this very building. We know of some kind of hearing preceding one of the degrees of initiation in Samothrace, in the course of which the applicant was questioned regarding sins he had committed. This "confession of sins," singular in Greek religion, may have been connected with the area we have now uncovered. This, of course, remains conjectural. But that an applicant for the *epopteia* in Samothrace submitted to a serious religious trial is indicated by the fact that, according to inscriptions, only a small percentage of those initiated obtained this higher degree and the selection was conditioned neither by financial nor by social status.

A discovery of artistic value was made to the east of the "New Temple." Buried in a fill of the Roman period near the southeastern corner of the building, we found fragments of the central floral akroterion of the rear façade. It is clear that it had fallen down during the Roman period and that the fragments were then buried. Eighty years ago, the Austrian excavators found fallen pieces of such an akroterion on the surface behind the building. This architectural member (now in Vienna) evidently was a Roman substitute for the Hellenistic original which we have rescued. The new akroterion exhibits much more vivid and free modeling than does the akroterion in Vienna. Even in fragmentary form it gives an idea of the animated and graceful appearance

of partly windswept leaves, slender curving stems, flowers, and perforated palmettes, which once were visible high up against the blue sky.

A minor excavation was carried out in the northern part of the sanctuary, in front of the archaic initiation hall, the Anaktoron, and northwest of the rotunda of Queen Arsinoe. As a result, both buildings are now clearly visible. Here we uncovered part of a massive archaic terrace wall constructed as a retaining wall against the river, in connection with the original building of the Anaktoron about 500 B.C. We also uncovered another terrace wall, built across this early terrace, that once supported a road leading around the northern periphery of the Arsinoeion.

In the course of our work, sporadic finds were obtained. Among these are two heads of Hellenistic terracotta figurines representing Samothracian divinities. One, a bearded god, is vaguely reminiscent of Serapis and, though badly worn, still characterized by a rather grim expression suitable for the ruler of the nether world. This is undoubtedly Axiokersos, identified by Greek writers with Hades. The other, a poorly preserved head of a young goddess, with parted hair and a high polos, probably represents his spouse Axiokersa, identified with Persephone. Another terracotta head of the third century, an image of a maiden with a heavy garland on her head which is covered by a veil, may represent an initiate rather than a divinity.





Head of a terracotta statuette of the third century B.C. The young woman wearing a heavy garland and a veil probably represents an initiate in the mysteries.



Iron finger ring. Such Samothracian rings were probably symbols of initiation; sometimes they were gilded, Pliny says.

The enlargement of the local Museum built by the New York University expedition, thanks to the munificence of an American donor. In the large hall will be exhibited architectural members; the wing at right is for smaller finds.



Among surface finds near the "New Temple" a rather heavy iron finger ring is of considerable interest. It recalls Lucretius' allusion to Samothracian iron pieces which he saw used for experiments with magnetic stones, and Pliny's reference to gilded Samothracian iron rings worn, scandalously enough, even by slaves—presumably symbols of initiation which could be worn by free men and slaves alike, inasmuch as no distinction was made between them in the Samothracian mysteries.

Of the numerous newly-rescued epigraphical documents, the most important is part of an honorary decree inscribed on a fragmentary wall block from the ancient town. Material and lettering point to the late fourth century B.C. It would thus be the earliest preserved Greek stone inscription surely of Samothracian origin. While all later inscriptions are written in the *koine*, this document is evidently in the Aeolian dialect and thus suggests an Aeolic origin for the Samothracian Greek settlers, in contradiction of the stories that the colony came from Samos. While our excavations have not yielded any confirmation of the Samian legend, some archaeological evidence for a relation to Lesbos and Aeolian Anatolia has been obtained and this new document points in this direction.

A fine fragment of a Thasian marble block, seemingly from a large base or altar, preserves part of a dedication to a king in monumental early Hellenistic letters. A well known Samothracian document (*IG* XII⁸, 150) decrees the erection of a "most beautiful" altar to King Lysimachos. It seems, therefore, that the new fragment is part of this altar.

Finally, among a number of fragmentary Greek and Latin catalogues of *mystae* and *epoptae* there is one recording the initiation, on the ides of June of an unknown year, of a [L(ucius) C]ornelius L(uci) F(ilius) Lent[ulus] as well as a number of freedmen and slaves who accompanied him. He is called [L]eg(atus) pro Pr(aetore), and is evidently one of the personalities of the Ciceronian age. It is of interest to note that this Roman dignity is introduced into this record only as *epopta*; thus he must have obtained the first degree of initiation on a previous occasion and visited Samothrace several times for participation in the mysteries.

Our program of conservation and reorganization within the Sanctuary consisted of clearing the eastern part of the "Temenos," the Central Terrace Precinct,

between the "New Temple" and the Arsinoeion. This part of the fourth century B.C. precinct was destroyed by early Christian and Byzantine lime burners. In order to preserve what they had left, we restored the missing contours of the precinct by tracing its outline with re-set ancient foundation blocks and by filling up the interior terrace to a roughly even level, so that what had appeared to be a shapeless ruin might convey to the visitor a general impression of the original form and extent of the precinct.

We were fortunate in being enabled at this time to provide an adequate local museum. In 1939, we had begun to build one big hall as the nucleus of such a museum and, after interruption and the looting of building material during the war, we finished that sec-

tion when we resumed work in 1948. During the past summer, we have built an exhibition and storage wing which will be ready for installation next year, when we shall add a further wing. A peristyle between the wings will shelter the rich epigraphical collection. The original large hall will be used to exhibit samples and partial restorations of certain major buildings of the sanctuary, while ceramics and other objects will be shown in the newly constructed southern wing.

The Greek Tourist Service has now decided to build a tourist lodge near the seashore in the immediate vicinity of the museum and the excavation. It is our hope that less than two years hence, visitors to Samothrace will have good facilities for a stay on the island and for study of the ruins and finds.

*Highlights of
the Autumn issue of*
ARCHAEOLOGY

FOUR FIRSTS IN MAN'S RECORDED HISTORY

Sumerian tablets as documents of human interest

by Samuel N. Kramer

IVORY CARVINGS FROM MYCENAE

Magnificent specimens of this early Greek art found in 1953, described by their excavator

Alan J. B. Wace

**ANCIENT ARTS OF EAST AND WEST IN THE
FOGG MUSEUM OF HARVARD UNIVERSITY**

The third in our series of picture articles on American museums

THE CHILLÓN VALLEY OF PERU

The first of two reports on recent excavation and reconnaissance

by Louis M. Stumer

THE BIRTH OF THE SMOKING MIRROR

An important Aztec monument analyzed

by H. B. Nicholson

MAYAPAN

THE LAST STRONGHOLD OF A CIVILIZATION

By Tatiana Proskouriakoff

LONG-FORGOTTEN TEMPLES hidden in uninhabited forests, richly furnished tombs and intricately planned palaces are the subjects an archaeologist likes best to present to the public, though his own attention is often engaged in nothing more spectacular than a humble household dump or some obscure graveyard. Antique splendor has not lost its charm but we have come to realize that if there is any process or pattern in the course of human history, it is not to be found in the baffling kaleidoscope of dramatic events but in the slowly changing lives of ordinary people and in the solid stem of economic and social traditions which supports all the evanescent accomplishments of civilization.

In the Western Hemisphere, before its discovery by Europeans, the most splendid flower of culture was the Maya civilization. Its intellectual concepts were boldly imaginative; its artistic expression was lavish, sensitive and true. In two recent issues of *ARCHAEOLOGY* (6 [1953], 3-11, 82-86) HEINRICH BERLIN and ALBERTO RUZ LHUILLIER describe finds that make the names of Tikal and Palenque ring with romance like the names of Angkor Wat and Persepolis. These are the highlights of archaeological work in the Maya area. In the meantime, KIDDER and SHOOK of the Carnegie Institution of Washington have been digging obscurely in early refuse pits to explore the roots of this develop-

ment, and more recently the Institution has initiated a project to study its final decline and has turned its full attention to the ragged remnants of civilization remaining in Yucatan in the thirteenth and fourteenth centuries.

The site chosen for excavation is Mayapan, "the banner of the Maya," lying roughly twenty-five miles south of the modern city of Merida. Few tourists visit here, for the road is abominable and takes three hours to traverse by car, with heavy wear on tires and tempers. There is little to compensate a traveler for his discomforts. No ornamented temples rise above the thorny, tick-infested bush, and such art and workmanship as can be seen are hardly worth a passing glance. Mayapan represents a tragic cultural decline. We see here how a society recovering from conquest by foreigners tried to assimilate new forms imposed upon it and struggled vainly to maintain a measure of integrity only to break up, finally, into a number of small, impoverished, impotent states.

When the city of Merida was founded by Spaniards in 1542, Mayapan had already been abandoned and in ruin for almost a century. Only a few family-proud persons still remembered and could point out sites within the city where their ancestors had formerly lived. Bits of the story of its final downfall survived in

• THE WORK AT MAYAPAN is part of a larger program undertaken by the Department of Archaeology of the Carnegie Institution of Washington in 1950 under the direction of Dr. H. E. D. Pollock, to study the last five centuries of Maya history before the coming of the Spaniards. Intensive excavation at Mayapan is supplemented by survey work in other areas. One of the expedition's aims is to find out if aboriginal history, used jointly with archaeology, can throw light on the mysterious disappearance of Maya civilization. Miss Proskouriakoff, a member of the expedition, holds a B.S. degree in Architecture from Pennsylvania State College. In 1936 and 1937 she took part in the University of Pennsylvania's expedition to Piedras Negras, Guatemala, and in 1939 became a member of the Carnegie Institution of Washington. Miss Proskouriakoff's restoration drawings of classical Maya sites have appeared as *An Album of Maya Architecture* (1946). She is also the author of *A Study of Classic Maya Sculpture* (1950).



The Temple of Kukulcan at Chichen Itza [above], and the corresponding temple at Mayapan [below]. The two are almost identical in plan but use very different masonry. Debris at the base of the Mayapan pyramid hides minor constructions.



V
7
/
2J
E5
4

MI



MAYAPAN continued

native histories. Mayapan had once been the capital of all the northern provinces of Yucatan. Its last ruler, known only as the Cocom, had been an overbearing man who had hired Mexican soldiers to subdue his enemies and was accused of selling his own subjects as slaves. It was not only his virtue, however, but also his power that was open to challenge, for Mayapan was ostensibly a "joint government," with the autonomous rulers of various principalities residing in the capital. It is easy to see how the exercise of extraordinary power could be regarded as a usurpation. In a violent internal revolt, the Cocom was killed, and those who could command a sufficient following returned to their provinces to engage in intermittent war with one another. The capital was left deserted.

Mayapan's "joint government" must have been a radical innovation in Maya history. Doubtless there had been former alliances and subjugations, but this was something new and in the nature of a true confederation. Although we are told that it lasted two hundred and sixty years, one need not be a cynic to question how this precarious structure of power could have survived so long, especially in view of its ultimate failure. It was, nevertheless, an inspired political scheme, and credit for it goes to a foreigner, a Mexican named Kukulcan or Quetzalcoatl, after the Toltec god whose symbol was a feathered serpent. Arriving in the country at a time of unrest, he unified it, doubtless by force of superior

arms, established a capital at Mayapan, organized its federated government and peacefully departed to his native Mexico. The Maya said he was a wise and just man, though later, under the pressure of Christian reproaches, they blamed him for introducing idolatry into the country. We gather that the earlier religion of the Maya was on a higher spiritual plane. Strangely enough, of all the data of Maya history, this seemingly most questionable item is clearly confirmed by archaeological remains.

Another notable personality in the history of Mayapan is Hunac Ceel, also known as Cauich. He was at first a subordinate of one of the rulers but by a number of spectacular intrigues and military campaigns he rose to a position of high eminence and won himself a reputation for extraordinary treachery. It may have been his activities that upset the balance of power and placed the Cocom family in a position of supremacy. At that time, the governor of Chichen Itza, an important member city of the confederation, was one Chac Xib Chac. The romantic indiscretions of this man gave Hunac Ceel an opportunity to involve him in the abduction of the bride of a neighboring ruler, and then to betray him by organizing, in reprisal, an attack upon Chichen Itza. This seems to have been a crucial event, but we do not know when it happened or what it implied. Some students believe it was about A.D. 1200. Others are inclined to place it much later. The circumstantial ac-



A serpent head [opposite page] at the base of the Temple of Kukulcan, Chichen Itza and the remains of a similar head [left] at Mayapan. The latter, modeled in stucco, is completely destroyed.

counts of Hunac Ceel's career in chronicles that are cryptic in the extreme on other matters, and the fact that he is linked with a ruler of Mayapan and mentioned in connection with its "joint government," makes it somewhat more probable that his conquest of Chichen Itza took place only shortly before the conspiracy against the Cocom and was one of the incidents that led up to the destruction of the capital.

Historical uncertainty runs through all the Maya records, but to the archaeologist the errors of history are not of paramount importance for he writes his account and poses his problems in a somewhat different light. He cannot hope to identify the bones of Hunac Ceel or to recover his name in inscriptions. The struggle for power of which Hunac Ceel was the protagonist he regards as only one of the minor facets of a process of disorganization that was transforming the lives of numberless unknown persons, ruler and priest, laborer, artist, and farmer alike. The archaeological problem is to define events in this process by the character of the remains and to establish their chronology, so that we can tell whether the disorganization was gradual or sudden, whether it was precipitated by foreign conquest or had its own internal causes, whether Maya elements of culture were disappearing before ideas flowing in from Mexico or if native traditions, temporarily suppressed by conquest, reasserted their influence in the end.

Here we have two cities that we believe ruled Yuca-

tan in two successive epochs. Chichen Itza, the earlier, is a splendid ruin and well known to every visitor to Yucatan. Many of its buildings were painted with historical murals and decorated with bas-reliefs. From these we know that its rulers came from highland Mexico, probably from the ancient city of Tula, the capital of the Toltec. They wore the regalia of the Toltec, had military orders represented by the jaguar and the eagle, and sacrificed men to the feathered serpent. When they first came to Chichen Itza it was apparently a thriving Maya city and their conquest of it did not completely disrupt its life. Older temples continued in use in spite of the introduction of a new religion. Bas-relief portraits of priests show them in their ancient regalia, probably performing many of their former functions. In art and in architecture the Toltec learned much from the Maya and, although the style of their buildings was new, they adapted and even improved local techniques of construction.

AT MAYAPAN we have a different story. Here too are evidences of an earlier occupation but not a single building of the original city was left standing. All were demolished and their stones used to construct new temples and houses. Since the stones of the old city were of fine grain and beautifully cut we can spot them at once in a masonry wall. Very likely, when Mayapan was made the capital its older buildings were no longer in

V
7
/
2

use and were in such a state of disrepair that they were fit only for material for new constructions. Perhaps the original city had lucklessly offered resistance to the invading Toltec and had been destroyed by them years before.

The new Mayapan, the capital, is a strange mixture of Maya and Toltec traditions with new elements added that give it a character of its own. Its principal temple was built on the traditional Toltec plan but was executed in a totally different manner from the so-called "Castillo" or temple of Kukulcan at Chichen Itza. The latter stands by itself on a broad open plaza artificially raised above the irregularities of the terrain. Its terraces are faced with finely cut stone arranged to form decorative panels. The temple on top has a masonry roof of typical Maya construction in which overhanging slopes from opposite walls almost meet to form a vault closed at the top with narrow capstones. Part of the original vault is still standing today. The jambs of the doorways and the wooden lintels are carved with representations of Toltec gods, priests and warriors. In the main doorway are thick columns representing the feathered serpent and huge serpent heads of stone are at the base of the principal stairway.

Perhaps it is not quite fair to contrast a picture of the Chichen Itza "Castillo," which has been partly restored by the Government of Mexico, with a picture of the recently cleared temple at Mayapan. The latter, stuccoed and painted, may have been very impressive in its day but it is precisely its appalling state of ruin which is so significant. The Mayapan temple is the younger of the two, but virtually nothing is now left of its walls. Its perishable roof probably fell after a few years of neglect, and its wall stones have tumbled down the slopes of the pyramid. When the stucco disappeared from the faces of the terraces, all the defects of their rude uneven construction were laid bare. At the foot of the main stairway a small heap of lime and stone is all that is left of a serpent head. It is as if the people of Mayapan took no pride in craftsmanship and had lost all sense of enduring quality, of permanence and of integrity. They built only what would serve the purpose, impress the populace and, above all, save unnecessary costs.

Other equally shoddy constructions cluster around the base of the pyramid, masking its lack of symmetry. Colonnaded halls are built on outcropping rock around it, forming irregular courts. At Chichen Itza the colon-



Serpent columns at Chichen Itza [above], and at Mayapan [right]. A sharp decline in artistry characterizes remains of the later city.

nade was a device by which the Maya vault, of necessity narrow in span, could nevertheless be used to roof a wide and spacious room. Large halls may have been needed as "bachelors' houses" for the training of young nobles in the arts of war and the practices of religion. At Mayapan the halls were flat-roofed with wooden beams covered by mortar, but stone columns still proved useful to save the labor of cutting large timbers and to

MAYAPAN continued

keep an open and airy façade. The columns are formed of smaller, less regular drums than at Chichen Itza and are heavily plastered. They have no capitals but some are adorned with stucco sculpture of human figures in high relief. Masonry benches are set along the rear walls and are interrupted in the center by shrines for the worship of idols.

Tiny shrines are found everywhere in Mayapan, in temples and in colonnades and in houses, as well as standing alone on small platforms. They do not occur in any number at Chichen Itza or in earlier Maya cities, and attest a new form of worship—that very idolatry with which Kukulcan was charged. Fragments of idols in the form of large pottery figures, painted and elaborately adorned with ornaments, are found in great numbers. They are usually attached to large censers and probably represent gods—not the former great gods approachable only by priestly ritual, but private gods to whom offerings of copal incense had to be made and who looked after the welfare of their worshipers. Each vocation now probably had its own gods: the merchants worshiped a god of travelers; the bee-keepers, a god of bees; the farmers, gods of corn and rain. Some may have worshiped personal gods made in the effigy of an eminent ancestor. It is said that when a noble died his ashes were kept in such an effigy by his descendants. There were also idols of stone but these more likely belonged to temples. The real essence of the change in religious practice suggested by effigy censers is that gods no longer required professional intercession, that they

could be approached directly and that devotion had become a personal affair.

The religious solidarity of Maya communities was formerly expressed in imposing religious structures and monuments depicting priestly ritual. The burial of a high priest at Palenque expresses well the honor afforded his office. There were no such elaborate tombs at Mayapan. There were large temples and the greater gods still demanded sacrifice, perhaps even more sacrifice than before, but no longer did they command wealth or undivided devotion. Deep pits through the substructures of temples are filled to the brim with skeletons and disarticulated bones, but seldom is there even a modest offering. The bones are doubtless those of sacrificial victims, killed so that the power of some declining god should be reasserted dramatically—and cheaply.

The gods were cruel but their increase in number had dissipated the community forces formerly centered around them. If Mayapan had solidarity, it was the precarious solidarity of political rather than religious structure and its energies were directed, as are the energies of many nations today, to preserving that structure intact. The effort saved on artistry and doubtless also the money saved on tomb furnishings went into newly introduced military defenses.

Mayapan was a fortified city. It was completely surrounded by a wall of rough stone eight or nine feet thick at the base and narrowed by an interior ledge to about five feet at the top. The construction at most is



Masonry wall at Mayapan. The square stone which appears at the lower left was salvaged from ruins of an older city.



Broken pieces of pottery idols bespeak a new religion introduced by Kukulcan, when Mayapan was made the capital.

only six and a half feet high, but it might have carried a stockade for greater protection. Seven large gates, probably roofed to accommodate guards, and five minor openings lead into the city. Today the protective efficiency of such a wall seems ludicrous. One cynical observer remarked that it was better adapted for keeping citizens in than for keeping an army out. We must remember, however, that the Maya were not proficient in the art of war and permanent fortification of any sort previously was unheard of. Thus the wall seemed a formidable construction and they called Mayapan "the fortress."

The necessity to keep residence within the wall may account for the crowded, chaotic plan of the city. We do not know what other Maya cities were like, for their residential districts have never been mapped. Often it is assumed that Maya cities were primarily ceremonial centers in a preponderantly rural community and that their permanent population was negligible. Some people object to calling them cities at all. Certainly houses were formerly more widely spaced, but we are beginning to

MAYAPAN continued

feel that the neglect by archaeologists of house-mound areas, and their preoccupation with temples and tombs, has left us missing very vital information about the character of the settlements. When a map of the entire city area of Mayapan was published by the Carnegie Institution, it came as a surprise to many archaeologists that within the wall, which encompasses a little over four square kilometers, there were over four thousand small structures. The principal civic center takes up hardly a hundredth part of the area. There are several smaller clusters of ceremonial or civic buildings, usually placed around one of the numerous cenotes or sink-holes that provided Mayapan with water. All the remaining available space is taken up solidly with household units built on every small rise in the ground and surrounded by low walls defining the properties. Here and there we see long level lanes outlined by walls but, for the most part, the irregular low areas between household units were the only streets. One wonders how anyone located an address or even found his way home after visiting in another part of the city!

The houses are modest in size and are usually grouped three or four together. Unlike the native houses of today, they are rectangular in plan. Most of them have two rooms, with masonry benches in the front room and sometimes a small shrine in back. Under the benches burials are often found and even small tombs, sometimes empty, as if built in anticipation of burials that did not take place. The shallow soil of Yucatan offers few places suitable for burial ground, and interment within their houses was customary for all but the nobility.

Everywhere on the surface of Mayapan we find metates and manos used for grinding corn. Some are of imported volcanic stone but the majority are of native limestone. Many, when broken, were re-used as wall stones. Flint tools are also abundant and thin obsidian flakes used as knives and razors occur in great numbers, though material for them must have been brought from distant regions. Gold and copper, jade and shell were luxury items. The list of imperishable articles is probably very much the same as for older sites, with the possible exception of metals, formerly very rare, and tiny flint and obsidian points which may indicate the introduction of the use of the arrow. We do not expect

to find great technological innovations at Mayapan, though no one can say in advance what a careful study of artifacts may reveal.

Pottery of course is given major attention because there is so much of it. But pottery of Mayapan, like everything else, has little artistic merit. The common ware is not very different from the wares made in some villages of Yucatan today. Decorated and fine pieces are rare. The number of figure censers greatly increases in the upper layers of deposits and they are very abundant on the surface, but elaborate as they are, they are stereotyped and crude in artistic conception.

In all visible aspects Maya culture has lost scope and vitality. It no longer asserted its view of the world in noble forms and with confident purpose. Possibly, however, this process of dissolution was germinating some seeds of new developments. Private religious rites may have been leading to more humane and universal concepts, the political experiment of joint government could have been followed by more successful attempts at unification, and the destruction of an obsolete hierarchy may have opened the way for a more flexible social organization. But whether by chance or as a result of prolonged conflicts, Maya history after the fall of



Entrance of a shaft running down through a temple substructure. It was filled with earth and with the bones of sacrificial victims.

Mayapan is a sad history of plague and famines which brought their culture to a nadir just when the Spaniards made ready for their conquest. Christian doctrine and colonial rule from then on blocked cultural advance in any new direction, and those Maya forms that survive today are incongruous fossils with little relation to modern life. No one now remembers Mayapan the fortress, and the descendants of its rulers are understandably puzzled that we should choose to dig in its meaningless piles of stone when far finer ruins are scattered all over the land.



A gate in the city wall of Mayapan. The man is leaning against a pillar that supported the roof.

• SPECIAL THANKS are due to Commendatore Amedeo Maiuri and Professor Pellegrino Claudio Sestieri, Soprintendenti alle Antichità, for their generous aid which made this account possible; in particular, for the unusual official photographs which they contributed. In a later issue of *ARCHAEOLOGY* Professor Sestieri will present a detailed account of the work at Paestum.

CAMPANIA AND LUCANIA IN 1953

By A. W. Van Buren

ANCIENT BAIÆ, the Baia of the present day, was a favored resort of the Romans by reason of its therapeutic bath establishments, which in antiquity were fed by numerous mineral springs. Pliny (*Natural History* XXXI, 4 f.; II, 227) mentions their content of sulphur, salt, alum, soda and bitumen, and the great heat of the springs, while Celsus (II, 17) describes the *sudationes* or sweat baths. The main portion of the ancient baths extends for almost five hundred yards along and below a lofty hillside: this the government has appropriated as an archaeological zone. The lower levels, after systematic clearance and the necessary work of restoration and maintenance, have now been opened to the public: four self-contained systems of bath structures, on a scale capable of accommodating many hundreds of bathers. Three of these have as their most striking feature a huge domical hall which could retain the heat and fumes from the sulphur springs. The types of

BAIÆ

1. Complex of buildings on the hillside which form part of the ancient bathing establishments, seen from the east. At right, center, the "Nymphaeum Theater."

2. Continuation to the right of the view in Figure 1. The stairways and some of the walls have been reconstructed.

1



2



2

construction and decoration in the various buildings of this area range in time over at least three centuries of the Empire, and include among their earliest elements one of the domical halls, a masterpiece of design and construction, which is now recognized as an Augustan forerunner of the Hadrianic Pantheon in Rome.

Apart from the domes and the systems to which they belonged, the most noteworthy structure on this hillside, now fully revealed as a result of recent campaigns, is an elaborate complex including the buildings shown in FIGURES 1 and 2. Its chief feature resembles a theater in appearance and plan. We may follow MAIURI in calling it, for lack of a better term, a "*nymphaeum theater*." In the center of what in a normal theater would have been the orchestra there is a large circular basin; perhaps aquatic sports took place or tableaux were shown in this setting. In any case, with its full eastern exposure, the whole establishment af-

forded an opportunity to patients for enjoying the bright sunshine of Campania during the morning hours. It commanded a superb view of the bay of Puteoli, with that city itself directly opposite, and the nearer coast-line delimited and sheltered by two promontories.

As FIGURES 1 and 2 show, the whole hillside has suffered grievous injury in the course of the ages, being treated as a quarry for building materials—the marble to be burnt in the lime kilns, and the native pozzolana to be combined with lime for the preparation of mortar. Many of the structures themselves have been seriously compromised in their stability—the radial supporting structures of the "*nymphaeum theater*" are exposed—and at best the marble veneer and decorative details have been stripped from them. Hence, in order to ensure the preservation of what remains, the Administration was forced to adopt drastic measures of conservation and restoration. The few marble fragments which are visible in FIGURE 1, on the lower terrace, suggest what must once have been the adornment of the various structures. The men shown standing in the shade to the left give the scale; they are turned toward a wall which still retains something of its painted stucco decoration. There are considerable such surfaces treated in the Third Pompeian Style (Julio-Claudian period), but in large part these were eventually concealed behind later facings.

In FIGURE 2, one's gaze is shifted somewhat to the right, so as to start with the northern edge of the *nymphaeum theater* and then to include the structures adjoining it to the north and extending far up the hillside. There are many levels, once accessible by flights of stairs, rain-water cisterns, and a system of canals. The great Campanian aqueduct, constructed under Augustus for the primary purpose of supplying drinkable water to the naval station at Misenum and the ships setting out from there, passed along close to the crest of the hill. The actual summit was treated as a vast *solarium*, and the slope itself was almost honeycombed with volcanic springs of various kinds: those emerging in the area immediately below the theater were efficacious in certain skin diseases. The springs and their qualities are still well known to natives of the district, although they have become partly exhausted and have yielded their prestige in favor of those on the nearby island of Ischia. The phraseology of the ancient medical writer Celsus suggests that an extensive myrtle grove formed a special amenity of the place and with its soothing aroma was an additional element in the cures; and myrtles still are to be found growing on this hill.

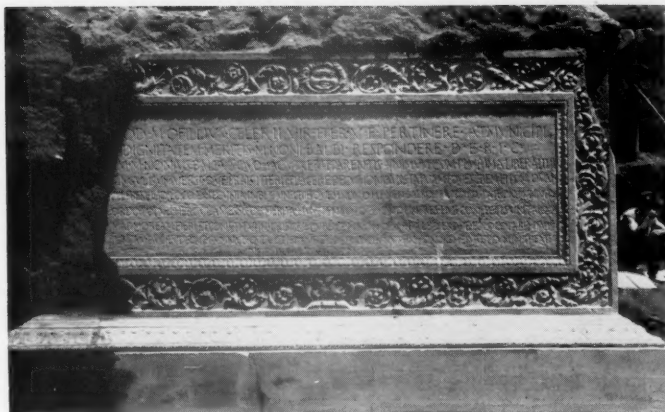


3

HERCULANEUM

3. Base of the statue of Marcus Nonius Balbus (at the right), and the monumental altar erected in his memory, *eo loco quo cineres eius collecti sunt*. It lies in the area toward the shore.

4. The front of the altar bearing a long inscription honoring the memory of Marcus Nonius Balbus. His name first appears in the second line.



4

AT HERCULANEUM, the uncovering of the southeast sector of the city has been practically completed, with impressive results, the essential features of which, as regards town-plan and architecture, are already accessible in MAIURI's illustrated guide (*Ercolano*, Rome 1936). FIGURES 3 and 4, however, add something to what is now of general knowledge, for the monuments here shown, one of the most notable discoveries of recent years, came to light during the late war, and their publication by MAIURI (*Rendiconti della R. Accademia d'Italia*, 1941, 253-278) appeared at a time when men's thoughts were turned in other directions. The precinct, in which the monuments stood, lay beyond the city limits and towards the ancient shore line. The oblong altar and the square base which once supported a statue, parts of which are preserved, belong together; they commemorate a distinguished personage in the life of the community, a generous benefactor who

restored several public structures during the years that followed the earthquake of A. D. 62, Marcus Nonius Balbus the Younger. Together with his father and other members of the family, he was already known from finds made in the upper part of the town during the tunneling operations by which Herculaneum was explored in the eighteenth century. From inscriptions we know that he had been governor of the province of Crete and Cyrene. The inscription upon the front of the altar (FIGURE 4) is nothing less than a transcript of certain resolutions passed by the town council in his memory after his death and it adds some welcome details of information as to his claims on the esteem and gratitude of his fellow-citizens. At the same time it is an instructive specimen of actuarial Latin and within its limits it contributes something to knowledge of administrative procedures in a small community of the Roman Empire.

AT POMPEII, thanks to the enlightened program of a recently established agency, the *Cassa per il Mezzogiorno*, a far-reaching undertaking for the complete uncovering of the city is in full momentum. This is to include the liberation of the outskirts of the city from the huge, unsightly dump-heaps left by previous generations of excavators, which not only were suffocating the houses that lay on the sloping edge of the town site

but were rendering it well-nigh impossible to proceed further with the uncovering of the area inside the walls. FIGURE 5 shows a stretch of the southern fringe of Pompeii in process of clearance; FIGURE 6 shows part of the same general area as it now appears. For the first time it is possible to share the impression which this view made upon the ancient beholder.

Before the present extensive campaign started, re-



5



6

POMPEII

5. The South Slope being cleared of earlier excavators' dumps. Above, at extreme right, is visible a bit of the portico enclosing three sides of the sacred area of the Doric Temple.

6. The same slope as in Figure 5, showing the part adjoining to the west, after being cleared. The new highway, at the right, leads toward the entrance near the Amphitheater.

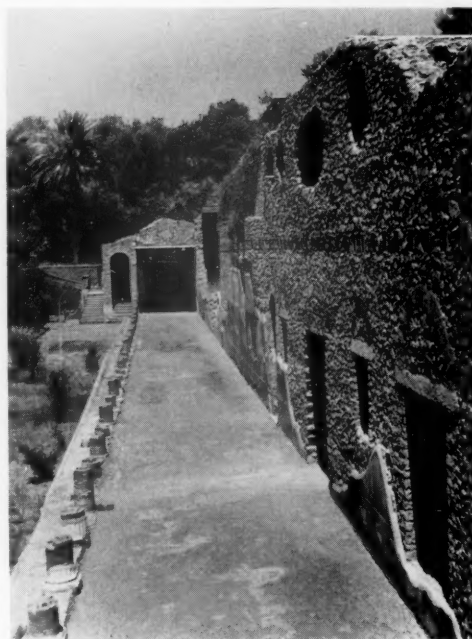
markable developments were taking place at the southwest corner of the city, close to the Porta Marina, largely in consequence of the bombardments in 1943. Clearing operations in this vicinity led to the uncovering not only of a long stretch of the Samnite city wall, together with the corner tower that was erected apparently in the early years of the first century B.C., but also of one of the most sumptuous edifices that the Campanian cities have as yet yielded. With its splendid decorations in the Third Pompeian Style, and the sunlit portico, over eighty yards in length (FIGURE 7), this establishment can hardly have been an ordinary residence. If not an exceptionally sumptuous villa, it might have been a very luxurious hotel.

Nearby are the *Antiquarium*, or museum, and an admirable auditorium, happily situated in the refreshing grove now planted between the old and the new highways just beyond the southern slope of the city.

Within the city, the area of the great *Palaestra* or *Campus*, the sports center, has now been completely cleared and its colonnade, one of the most spacious that have survived from the ancient world, has been reconditioned (FIGURE 8). Eventually it should prove possible to replant the rows of trees which stood here in ancient times. Their position is known from observations of the cavities left in the ground by disintegration of the original trunks and roots. The result will be unique, and this vast establishment may again become something in the nature of a sports field.

A visit to the excavations at present in progress, extending eastward from the vicinity of the *Casa del Menandro* to a gate in the eastern city wall, may properly begin with a general survey of an extensive area. Here the top layer of humus, which had gradually accumulated subsequent to the great eruption, has been removed, leaving the uppermost portions of house walls projecting above the thick stratum of fine ashes (*cineres*) that fell during the second phase of the eruption. The first phase is represented by the bottom layer, which consists of pumice-stones (*lapilli*). This stage of the present undertaking has already yielded the plans of streets and houses, as a preliminary to the systematic clearing, house by house, of the *ejecta* down to street and floor level. Some houses have been just recently liberated from their coating of *ejecta*. Their unsteady walls are temporarily propped in place by wooden beams, and their still sensitive painted surfaces protected from sun and rain by reed awnings, until the slow process of drying, followed by cleaning and reconditioning, will have restored them.

Campania and Lucania continued



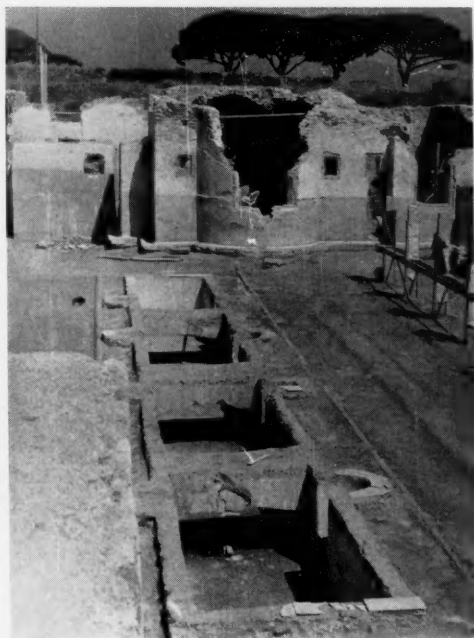
7

Of special interest are the *praedia Iuliae Sp. f. Felicis* (FIGURE 9). The unconventional edifice had been already excavated about the year 1756, in fact the plan of its main part quite accurately drawn, its movable or detachable contents taken (eventually) to the Naples Museum, and its area then filled in again. The former excavators, however, did not uncover the whole extent of this property, which included a garden, or rather meadow, by far the largest of its sort within the city walls. The estate is now completely cleared, replanted, and available for the admiration of visitors. As could be inferred from a long-familiar inscription offering parts of it for rent, its principal feature was a sort of community center, equipped with a superior quality of baths, and having some rentable shops on the street front.



8

9



POMPEII

7. Portico erected in the Julio-Claudian Period outside the stretch of the Samnite city wall at the western end of the city. Looking toward the north and the vicinity of the Porta Marina.

8. The sports field, now completely cleared, with its porticoes restored to their original state.

9. *Praedia Iuliae Sp. f. Felicis*: the peristyle, showing remains of the ornamental fountain in the foreground; beyond it, in the background, a bath structure. On the right, a few of the marble pillars that stood on three sides of this open-air enclosure. Previously in the Naples Museum, they have now been restored to their original location.

THE RECENT CAMPANIAN developments are equaled in interest by those across the border on the northwestern fringe of Lucania. A visit to Paestum at the present time is most rewarding, since the results attained through the far-reaching program of the *Soprintendente*, Dr. PELLEGRINO CLAUDIO SESTIERI, can now be appreciated. One of the most significant developments is the improvement in the appearance of the sanctuary of the archaic hexastyle "Temple of Ceres" that has been effected through the re-erection of a free-standing Doric column (FIGURE 10). Most of the drums, as well as the capital, were found re-used in the various late classical or early mediaeval structures which had clustered about the front of the temple. A note of verticality has thus been introduced which echoes that of the temple columns and contrasts with the horizontal lines of its base and entablature, as well as of the great altar. The current designation, "votive column," is somewhat misleading, since the purpose of such columns was to support the actual dedication. They formed a not unusual feature of Greek sanctuaries both in the archaic period and later. To us, the most familiar example is the lofty Ionic shaft with its capital which supported the sphinx of the Naxians at Delphi; but fragments of another were found in the precinct of Aphaia on the island of Aegina, and the Athenian acropolis yielded many small columns, most of which supported statues, dating from before the great Persian invasion. The heavy forms of both shaft and capital of the example at Paestum suffice to assign it to the same general period, late archaic, as the temple in the precinct of which it stood. Here it was not unique, for near to the base, which has been restored to support it, two other bases have come to light, which doubtless served similar columns.

The tradition of such free-standing columns lasted down into later times in Greece, for they were used as supports for prize tripods in the sanctuary of Dionysos Eleuthereus in Athens. At Delphi, a foliate shaft sustained the group of three dancing women and whatever metal object they supported, and in later times two Ionic columns stood on the terrace of the great temple. Plataea's votive offering at Delphi, which included the "serpent column," was a somewhat eccentric variant of the same tradition. Eventually, however, a tendency developed to adopt more substantial supports, such as the triangular pillar at Olympia on which stood the Nike by Paionios of Mende and its counterparts at Delphi, or the rectangular bases of Prusias and Aemilius Paulus in front of the temple of Apollo at Delphi; whereas a somewhat freer architectural treatment was

Campania and Lucania continued



10

PAESTUM

10. The Sanctuary of the archaic hexastyle temple, seen from the northeast. The free-standing Doric column is in the right foreground. To the left of the column are remains of the Great Altar.

11. The Museum. Inaugurated late in 1952, it houses objects found at Paestum and at the Sanctuary of Hera.

12. The Museum interior, seen from the front right-hand end of the gallery, and showing the corresponding corner of the inner room with the elements of the frieze from the *thesauros* of the Silarus sanctuary located much as they were originally intended to be seen.



11



12

adopted as early as the fourth century B.C. in such a solution as the choragic monument of Lysikrates in Athens. Thus the column at Paestum finds its place near the head of a long and varied series.

The nearby Museum (FIGURES 11 and 12) was constructed to house objects both from Paestum itself and from the sanctuary of Argive Hera at the mouth of the river Silarus, some miles to the northwest but still in the territory of ancient Poseidonia. The discovery of this famous sanctuary, its excavation and publication, by Drs. PAOLA ZANCANI-MONTUORO and UMBERTO ZANOTTI-BIANCO (*Heraion alla Foce del Sele*, Rome 1951) forms one of the most remarkable episodes in the history of archaeology; in particular, the series of sculptured metopes from the archaic treasury (FIGURE 12) supplies a unique repertory of early Greek art and mythology.

THE MUSEUM shows the skilful use which its designers have made of the local sandstone or travertine. The installation (FIGURE 12) is a most successful result of a fresh approach to an exceptional problem. An inner structure exhibits high up on its outer walls the sculptured metopes from the treasury, for which it was especially designed. The photograph shows also the two admirable anta capitals from the treasury, which have

been installed beside the door to the inner hall. Sculptured details from the main temple of the Silarus site and other buildings in and about that sanctuary are also exhibited.

The central, inner room contains a splendid exhibit of colored terra cottas, mostly architectural, and some choice minor objects such as the silver boss with an early inscribed dedication to Hera. Elsewhere are exhibited minor objects: on the ground floor, those from the Silarus sanctuary, and in the gallery, those from Paestum and some points in the vicinity. The pits containing remains of sacrifices and votive offerings from the several sanctuaries proved exceptionally informative for the nature of the cults, the relations with other Greek communities, the various artistic influences, and the successive periods of the maintenance of worship; while the indigenous cultures, partly antedating the coming of Greek colonists, are also well represented.

In its well chosen situation, this noble Museum appears destined to fulfil an important function in the world of culture: it presents an incomparable picture of the art and the cult practices of this corner of the Greek world, actually beginning with the artifacts of Neolithic man and coming on down through the centuries. In the matter of museum technique, it embodies the very latest developments.

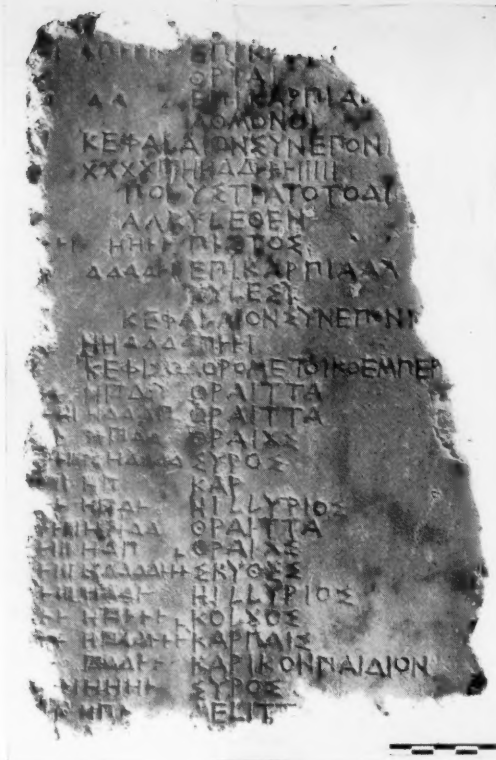
SALES TAXES IN ANCIENT ATHENS

By W. Kendrick Pritchett

Associate Professor of Greek, University of California

Photographs by Alison Frantz

This marble slab in the Epigraphical Museum in Athens, complete on the left side, lists the confiscated property of the mutilators of the Herms, who committed the crime in 415 B.C. The left hand column records the tax, the second column the price paid; then come the names of the items auctioned. The lower half of this particular fragment lists some of the larger sales, those of slaves belonging to the metic Cephisodorus, whose name is on the seventeenth line from the bottom.



THE "BRACKETED" SALES TAX is a type of reasonably painless extortion familiar today to nearly every American. Almost all the states of our union and many municipalities impose a tax on retail sales, not according to exact percentages of the amounts of individual sales, but according to specific sums imposed on sales falling within specified brackets. The clerk at the cash register has before him a chart which conveniently permits him to determine without recourse to arithmetic the amount of the tax for each bracket.

According to one student of modern taxation, N. H. JACOBY, *Retail Sales Taxation* (Chicago 1938) 194-195, Ohio and West Virginia early in the nineteen thirties adopted the system of "bracketed" sales taxes which has since become so common. An Ohio law of 1934 levied the following tax on retail goods:

- If price is less than 9 cents—none
- 40 cents or less—1 cent
- over 40 cents and not over 70 cents—2 cents
- Over 70 cents and not over one dollar—3 cents

For sums over one dollar the scale was continued in arithmetical progression. This was generally referred to as a three per cent tax, and Ohio administrative authorities assessed a flat three per cent of the gross amount of retailers' sales until they learned that actual collections of retailers amounted to a slightly higher per cent of sales (JACOBY, page 195, note 25).

This system has such an air of twentieth century efficiency about it that one is surprised to learn that a tax of similar nature was levied on auctions of confiscated property as early as the fifth century B.C. This is vividly demonstrated in certain inscriptions, mostly from the American excavations in the Athenian Agora, which recorded the public sales conducted by the Athenian *poletai*. These officials auctioned the property of certain prominent Athenians, one of whom was the famous Alcibiades who had been found guilty of the mutilation of the Herms and the profanation of the Mysteries, which took place in the summer of 415 B.C. Much of our information about the crimes has been obtained from the sixth book of Thucydides and from Andocides' oration *On the Mysteries*. The record of sales was engraved on many marble slabs and set up in the

Athenian Eleusinion located to the north of the Acropolis. Thirteen fragments have long been known, and now several times this number have come to light in the American excavations and are being published with detailed commentary by the present author in the periodical *Hesperia*.

These inscriptions preserve so many figures from the sales tax that we can now postulate that the Athenian auctioneers used a "bracketed" chart similar to our modern ones, when they came to impose duties; and we can determine the brackets and the tax for each bracket.

Amount of Sale		Tax		Percentage	
From	To	Drachmas	Obols	From	To
1 obol	4 dr. 5 obols	—	1	100	—3.449
5 dr.	49 dr. 5 obols	—	3	10	—1.003
50 dr.	99 dr. 5 obols	1	—	12	—1.002
100 dr.	104 dr. 5 obols	1	1		1.667—1.104
105 dr.	149 dr. 5 obols	1	3		1.429—1.001
150 dr.	199 dr. 5 obols	2	—		1.333—1.001
200 dr.	204 dr. 5 obols	2	1		1.083—1.058
205 dr.	249 dr. 5 obols	2	3		1.220—1.001
250 dr.	299 dr. 5 obols	3	—		1.200—1.001
	etc.		etc.		etc.

(6 obols = 1 drachma)

Table of Athenian sales tax "brackets."

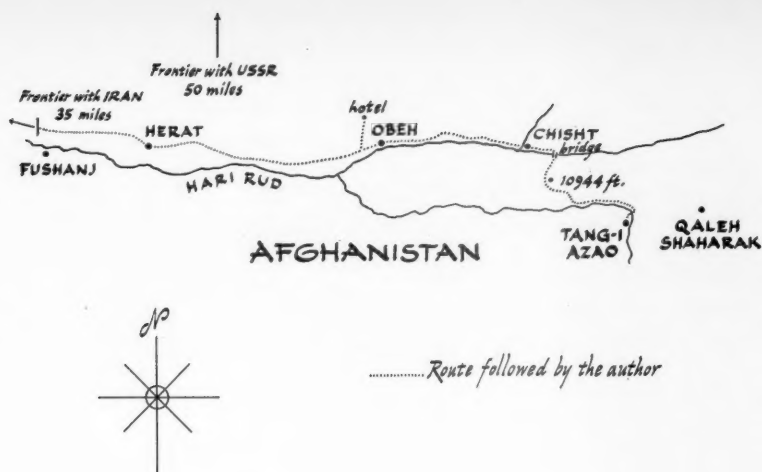
There are 154 items for which the sales price and sales tax are preserved virtually complete, and these permit us to reconstruct the annexed table.

We may note several facts about this scheme. There were items which sold at one obol, for which the purchaser paid a 100% sales tax. An item which was purchased at 4 dr. 5 obols was taxed one obol, which is equal to 3½%; whereas an item which sold at only one obol more, namely 5 dr., was taxed 3 obols, which is at the rate of 10%. As the sales price increased, the percentage of the tax fluctuated less between one bracket and another, and came to approximate more nearly to one per cent.

The reason for these particular "brackets" is probably to be found in the Attic system of numerical notation. Apart from one, the unit, the numerical signs were the initial letters for five, ten and one hundred, with the sign for fifty drachmas being a combination, Π. The progression in the "brackets" after the first is from five to fifty to one hundred drachmas. Each of these numerals was represented by a single sign; so the table was made as simple as possible. The most pronounced inequality in the system is in the first, fourth, seventh, tenth, etc., brackets, where the tax in each case covers sums of only five drachmas as against sums for forty-five drachmas in the second, fifth, eighth, eleventh, etc., brackets, and sums of fifty drachmas in the third, sixth, ninth, twelfth, etc., brackets. The Athenian state made sure that no single sale would be taxed less than one per cent.

Marble slab in Athens. In the middle of the upper fragment was incised part of the name of the famous Athenian general, Alcibiades, son of Kleinias. The patronymic can be clearly read just below the middle. In the column near the right edge of this upper fragment, one item, the name of which is now lost, sold for one obol, for which the tax was one obol, or 100%.





AN EPIGRAPHICAL JOURNEY IN AFGHANISTAN

By RICHARD N. FRYE

Associate Professor of Middle Eastern Studies, Harvard University

THIS BRIEF ACCOUNT of a short but difficult journey is dedicated to MUHAMMAD ZAMAN KHAN, the *alagadar* or sub-governor of Chisht, without whose help the difficulties would have been insurmountable. In May, 1952, in furtherance of the international project for a *Corpus of Middle Persian Inscriptions* which I mentioned in an earlier article ("An Epigraphical Journey in Iran, 1948," *ARCHAEOLOGY* 2 [1949] 186-192), I made a trip into the heart of Afghanistan in search of a Parthian inscription, in company with Dr. R. GHIRSHMAN, who is head of the Mission Archéologique Française en Iran.

The inscription, carved on a mountainside in a remote gorge called Tang-i Azao, had been discovered by a travelling *mullah* or Muslim divine and reported to AHMAD ALI KOHZAD, director of the Kabul museum, during the late world war. It was only after the war that KOHZAD was able to visit the site and copy the inscription; unfortunately he had no squeeze paper or latex

with him to reproduce it accurately, so his mission was incomplete. Dr. GHIRSHMAN had heard of KOHZAD's trip and wished to see the inscription *in situ*. When I was in Susa in April, 1952, Dr. GHIRSHMAN and I agreed to go together at the end of his season of work, after his return to Tehran. Meanwhile I was charged with preparing my British car, a Land Rover, for the expedition.

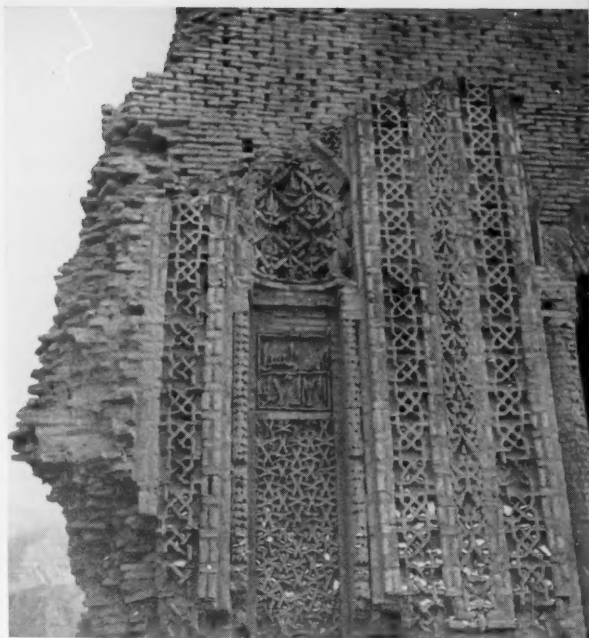
This was my third trip in search of Middle Persian (Pahlavi) inscriptions, the first having been to Sar Mashad in southern Iran (*ARCHAEOLOGY* 2 [1949] 189), while the second, in January, 1952, was to eastern Iran in search of several Parthian inscriptions near Birjand. The results of this expedition will appear in a book by Professor GEORGES REDARD of Neuchâtel and myself, *On the Trail of the Baluchi*.

Although the term Middle Persian is used for Parthian as well as Sasanian inscriptions, almost all of the known Middle Persian inscriptions were carved by

order of the Sasanian kings (A.D. 225-642); very few are known from the period of the Parthian rulers of Iran (ca. 250 B.C.-A.D. 225). Hence the possibility of finding a Parthian inscription, perhaps an important royal inscription, was a challenge to students of that little known period of Iranian history. Furthermore, the inscription in Afghanistan would be the farthest east of any Middle Persian inscription hitherto found. Although, as will be shown, the Tang-i Azao inscription proved disappointing, and remains as yet undeciphered, nevertheless it is undoubtedly Parthian, and the securing of an accurate copy seems well worth while. Moreover, the hurried journey netted other results, especially the chance to photograph the remains of Islamic architecture at Chisht.

The month of May is not to be recommended for automobile travel on the Iranian plateau, for it is a period of spring rains and the sudden mountain torrents familiar to travelers in the Near East or in our Far West. Our mission was limited by a timetable, since Dr. GHIRSHMAN had to be in Paris two weeks after we started, which was on May 2, 1952. There were three of us: Dr. GHIRSHMAN, his Susa expedition chauffeur GEORGE SARKISSIAN, and myself.

The first stage of our trip was to Sabzevar in Khurasan, 436 miles from Tehran on the speedometer, which we reached after eighteen hours of hard driving. The following day we arrived at Meshed, capital of Khurasan, and the next day Herat in Afghanistan, 855 miles from Tehran. Here we found that no one had been informed of our trip, though we had sent telegrams weeks



Close-up of entrance to the mosque showing the inscription in the recessed panel to left of door. The decoration in molded brick is an outstanding example of early Islamic interlace ornament.



Ruins of the mosque and *medresa* (school) at Chisht built at the end of the twelfth century by Sultan Ghiyas al-Din Ghuri ibn Sam.

before. Furthermore, telegraph wires to Kabul were down as a result of rain, so it seemed we would not obtain permission to go to Tang-i Azao. Fortunately both GHIRSHMAN and I had lived in Afghanistan, and we were able to persuade the officials of our ability to carry out our project. Once permission was given, the officials did everything in their power to help us. It was exhilarating to hear the Afghan Persian dialect again and to be among my old friends.

We left Herat on Monday afternoon, May 5, and stayed the night at a mountain resort near Obek. Our route followed the splendid Hari Rud valley, here wide, green, and apparently quite fertile. From Herat to Obek we were accompanied by FIKRI SELJUKI, head of the small museum in Herat, who incidentally, showed us a small Buddha figure in ivory which had been found in the ruins of Fushanj to the west of Herat, the farthest west any archaeological traces of Buddhism have been found.

At Obek the following morning we were told that the road to the east was impassable for motor vehicles because of the rains. We debated taking horses but decided to try our luck with the car. It is difficult to describe the road to Chisht, only forty-one miles farther east on the Hari Rud, but the trip took over nine hours, the very difficult driving being punctuated by reconstruction of sections of the road which had been washed away. If it had not been for the men sent by the *alaqadar* of Chisht to help us, we never would have arrived there.

The Afghan government has built hotels or small guest houses all over the country, which are a great boon for the traveler. We stayed in the rest house in Chisht preparing for our remaining trip over the mountains to the south of the river. At Chisht, a village in a lovely valley with large trees and a swiftly flowing stream, there are remains of a mosque and a school (*medresa*) built by Sultan Ghiyas al-Din Ghuri ibn Sam (ca. A.D. 1193-1202), according to the traces of an inscription on the mosque. The great mosque at Herat has an inscription of the same ruler, but, of course, it has been rebuilt many times in the course of its history, so the Ghurid remains at Chisht are very important for the history of early Islamic architecture.

We left Chisht early on the morning of May 7 with the *alaqadar*, MUHAMMAD ZAMAN KHAN, who proved invaluable not only as a guide but as a source of authority in obtaining aid from local inhabitants to build



Ancient and modern transportation along the road near Tang-i Azao.

our road. Over the bridge of Shirkhak we passed to the south side of the wide, swiftly flowing Hari Rud. It was quite an experience not only to break a road through a stream bed, removing rocks, and to cut down steep banks, but also to meet nomads and villagers, many of whom had never seen a car. On several occasions we were obliged to stop until the horses of the nomads were calmed. The dogs invariably came out of the black tents to attack the passing monster. The nomads were all Pashto-speaking Afghans on the way to the mountains of central Afghanistan for the summer. During the entire trip we met none of the Mongol Hazaras whom we had expected to find in the mountains.

For lunch we had baked potatoes; a passing traveler, who had never before seen them, asked us how we could eat stones! In the late afternoon, twenty-eight miles from Chisht, we reached what seemed to be the end of the line, where the road had fallen away completely—a drop of nine feet to the stream bed below. It was necessary to retreat for the night to a settlement of three huts of reeds covered with felt, which are called *chappars*. There we saw the famous *tazi*, or Afghan racing dogs, capable of catching an antelope, and a captive baby mountain goat. Horses were to be brought to us in the morning. Since we were high in the mountains the night was cold.

We asked our hosts about Tang-i Azao and were told it was half a *ribat* away, but time and distance have little meaning for the people of the *chappars*. For them the day is divided into five parts by the five times of prayer observed by good Muslims. A *ribat* is



The narrow gorge of Tang-i Azao, looking south. At right is the sloping rock wall on which the Parthian inscription is carved.

a day's journey on foot, the distance varying of course with the terrain. The word *ribat* originally meant a fortified caravanserai, but has come to mean also the stage of a journey, the distance covered in traveling from one caravanserai to the next.

In the morning we learned that large numbers of men had arrived to construct a road for us, so we could continue by car rather than horse. Later our greatest obstacle, a gorge five feet across but some twenty feet deep, was solved by our Afghan friends, who borrowed two telegraph poles nearby to bridge the gap, the poles being tied by ropes and covered with reeds and stones. The men performed yeoman service and I could not but wonder where else in the world one would find such assistance.

Late in the afternoon of the second day out from



The Land Rover encountered many difficulties. Often land slides had to be cleared for the passage of the expedition.

Chisht, and fifty-three miles from Chisht, we reached Tang-i Azao. The inscription, according to some nomads encamped nearby, was a mile to the south in a narrow gorge on the other side of a swiftly flowing river, an important tributary of the Hari Rud. Attempts to cross the icy torrent by foot failed, so we had to borrow a camel from the nomads. GHIRSHMAN clung to the front and I to the back of the one-humped beast and we were able to cross in safety. On the other side we climbed rocks until we reached the inscription. It was carved on the surface of a huge stone in a gorge, slanting at a 60° angle, and it was some ten feet above the ground. Because of its position in the gorge it could only be photographed between eleven A.M. and noon. It seemed to be a Parthian inscription of seven short lines, roughly carved and much weathered, obviously the carving of a passer-by and no royal record. After the difficulties of the trip this was a disappointment. Still, it was interesting to find an inscription so far to the east, in the heart of Afghanistan. It has not been deciphered and no name has been identified, but that it is Parthian is hardly to be doubted.

Since it was becoming dark we returned to the nomads to spend the night with them under their black tents. They were a tribe of the Ishaqzai, a sub-section of the Mohammedzai, of which the royal family of Afghanistan are members. During the night it rained and we prayed silently that our road back would be intact. Our prayers were in vain, however, as we were shortly to learn.

The next day we worked on the inscription, applying latex, photographing and copying. Then we had to

JOURNEY IN AFGHANISTAN continued

leave Tang-i Azao for the return trip. When we arrived at our bridge over the gorge late at night we found it had fallen, so the night was spent encamped, in speculation whether the car would ever return to Herat. Perhaps we would have to abandon it and walk.

In the morning a miracle happened. An entire village arrived to cut a new road for us out of the gorge farther away. It was finished in record time, three hours. The rest of the trip to Chisht was also difficult, and we walked much of the way in front of the car removing stones and filling ravines. When we reached Chisht, exhausted but triumphant, we held a small banquet to celebrate our arrival, and hoped that our difficulties were over. But worse was to come.

The trip from Chisht to Obek remains in memory as a feat for which GEORGE, our chauffeur, should receive the title of finest driver in the Near East. Much of the road was gone so we had to make our way by unloading the car and pushing it up mountainsides, or by pulling and pushing it through streams created by the rains. On two occasions the streams were almost hip deep and of course the motor stalled in the middle of the stream. Even unloaded, in four wheel drive and low gear ratio, only the help of numbers of Afghans carried the machine through. On one occasion the empty

car almost fell backwards on its top, so steep was the incline over a mountain, but the crowd of men behind saved the day by pushing it over.

The flowers of Herat gave a wonderful fragrance to the air as we drove into the city late on the evening of May 11th. The Timurid city with its *musalla* (place of prayer), now with only six minarets standing, and its beautiful shrine of Gazurgah nearby where the saints of Khurasan are buried, never seemed so lovely. Our expedition was at an end; we had reached Tang-i Azao and returned, and we had had an unforgettable experience.



The author applying several coats of liquid latex to the inscription carved in the rock surface.

The badly weathered inscription covered with latex. The rubber mold thus produced is pulled off, providing a permanent record for study.



rebuild the Stoa of Attalos. The work of reconstruction is now in progress.

The third phase of the undertaking includes strengthening and conserving the architectural remains and beautifying the area. Wherever possible the ancient landscaping will be reproduced. In many cases it is possible to follow the evidence supplied by ancient written accounts and even by archaeological discoveries. A provisional plan for the entire project has been drawn up by Mr. RALPH GRISWOLD, landscape architect of Pittsburgh, Pennsylvania, after study of the problems on the spot.

The King and Queen of Greece have long shown personal interest in this undertaking and their participation in these ceremonies marks a significant point in the development of the enterprise. After an introduction by the Director of the American School, King PAUL planted a sturdy holm oak (*quercus ilex*) on the south side of the ancient altar. Queen FREDERIKA then set out the laurel tree (*laurus nobilis*) on the north side.

X-Ray Research on Ancient Diseases

Just when and where modern diseases like cancer, syphilis, tuberculosis and arthritis originated is a question doctors have been trying for years to answer. Now, in an effort to solve the problem, X-ray studies of primitive diseased bones are being made at the Smithsonian Institution and the Georgetown University Medical Center in Washington, D. C. Evidence has already been uncovered indicating the presence of both tuberculosis and syphilis in American Indians prior to the time of Columbus. A study now to be undertaken is that of the skeletal remains of a prehistoric colony recently excavated in Panama. It is the first such collection to be acquired by the Smithsonian from this area; and under X-ray its pathological specimens may shed further light on the question of whether certain diseases were prevalent on this continent or whether they were brought here by Europeans.

This research is the joint work of a Washington orthopedic surgeon, Dr. WILLIAM J. TOBIN, and Dr. T. DALE STEWART, curator of the division of physical anthropology at the U. S. Na-

tional Museum, Smithsonian Institution. At Georgetown, a special technique for radiographing ancient bones has been developed by Sister CHARLES REGINA, supervisor of the Medical Center's X-ray department. Exhibitions of their findings have been prepared by Drs. TOBIN and STEWART. One of these, an introductory survey of palaeopathology (diseases of ancient man), is currently on display at the Armed Forces Medical Museum in Washington, D. C.

American Source of Jade

A jade mine of the ancient Mayas, from which the semiprecious stone was obtained as early as 100 B.C., has just been discovered at a site on the Motagua River near Guatemala City. Samples of the hard, slightly greenish rock sent to the Smithsonian Institution by ROBERT E. LESLIE, of Guatemala City, have been identified by mineralogists as identical with the stone used by the Mayas for some of the finest examples of aboriginal artistry ever found in the New World. The material obtained from Mr. LESLIE is just below gem standards.

Jade carving is most commonly associated with the Orient. Its extensive use by pre-Columbian Indians, together with the fact that no native source could be found, has led in the past to considerable speculation as to an Asiatic origin of the Olmec and Maya civilizations, despite other evidence to the contrary. Archaeologists have always been faced with the question, now partially answered, of where the precious stone came from, if not from China. New World deposits thus far found have been extremely scanty.

Jade occurs in two mineral forms, according to Dr. WILLIAM F. FOSHAG, Smithsonian head curator of geology. These are jadeite and nephrite. The former, a mineral combination of sodium, aluminum, and silica whose color ranges from white through greenish-gray to emerald green, is by far the more valuable. This is the kind used by Olmec and Maya sculptors and the kind found by Mr. LESLIE. Nephrite, a combination of magnesium, silica, calcium and iron, is less valuable, more abundant, and is the kind from which most Chinese carvings have been made.

The probable existence of jadeite deposits somewhere around the Motagua River has been postulated for some years for the Maya jade carving industry seemed to radiate from the region near Guatemala City. Near there was found a tomb containing the skeleton of a pre-Columbian sculptor, a block of jade weighing approximately 200 pounds, and a pile of jade dust which he apparently had used for grinding. There must have been other sources, Dr. FOSHAG believes. Pre-Maya sculptors in Costa Rica, for example, worked with a distinctive, slightly bluish jadeite. The Toltecs and the Aztecs both used a greener jade than that found in Guatemala. It is quite possible that the Maya had other sources in Guatemala or Chiapas.

Summer Field Work in New Mexico

As a part of the regular Summer Field School for undergraduates, advanced students and graduate students, the University of New Mexico is excavating at the site called Pottery Mound during June and July, 1954. This site lies in the Puerco Valley some forty miles southwest of Albuquerque, New Mexico. Pottery Mound is a Pueblo site of adobe construction which has received this name because of the abundance of pottery evident upon its surface. This pottery consists of Rio Grande glazes, Zuni glazes, and Jeddito Sikyatki. These latter are, of course, indigenous to the Hopi area and their presence in the Rio Grande Valley is a matter for interesting speculation. A preliminary test indicated that Pottery Mound consists of three superimposed Pueblos. The lowest of these may go back to Pueblo III times. The whole excavation promises to be most interesting and informative.

Rome Prize Fellowships

Among the recipients of fellowships in classical studies awarded by the American Academy in Rome, for the year 1954-55, is WILLIAM L. MACDONALD, Instructor at Wheaton College, who is a frequent contributor to this magazine. Similar fellowships were awarded to WILLIAM S. ANDERSON, graduate student at Yale University, and KATHERINE A. GEFFCKEN, graduate student at Bryn Mawr College.



Palmyrene Sculpture in Portland

Three fine examples of the distinctive sculpture of Palmyra, the famous caravan city of the Syrian desert, have recently been added to the permanent collection of the Portland Museum of Art, Portland, Oregon. Pieces such as these were placed in funeral towers or in underground burial crypts which contained the bodies of the deceased.

Each of the three tombstones bears



the name or names of the deceased, inscribed in the Palmyrene language, a local variation of Aramaic. The two men who appear on one stone (a rare combination in this type of sculpture) are apparently uncle and nephew. The beardless one is identified as Yarkhibonna, the son of Tama, who appears to have been the sister of the older man, Zabdibel (?). The uncle's hand rests on his nephew's right shoulder. On another stone are shown Yarkhai the son

of Ogga and his daughter Balja, who is richly adorned with jewelry. Behind her can be clearly seen the *dorsalium*, a piece of drapery supported by circular buttons crowned with palm leaves. This is supposed to indicate which of the two was the first to die. On the third stone (not shown here) is the single figure of a man, Pazal, son of Zabda. All are dated by stylistic criteria to the second half of the second century A.D.

Dead Sea Scrolls

The first discovery of ancient scrolls in caves near the Dead Sea some years ago electrified the archaeological world. Since then numerous similar finds have been made in other caves in the same region, and the material still continues to pile up. Its analysis and evaluation will take many years and as yet those who are in charge of the work are not prepared to disclose the contents of the scrolls.

We are privileged, however, to quote from a letter written by Professor JAMES MUILENBURG, Director of the American School of Oriental Research at Jerusalem, in which he describes the methods used in deciphering and preserving the scrolls which have recently been found. His account of the special techniques which have been invented and adapted for this purpose is of great interest:

"... You will recall that a little over six months ago the report reached us in America that seventy new scrolls had been discovered in the Qumran caves. ...

"The actual facts were at once both less and more than the report, less because not a single complete scroll had been discovered, and more because instead of seventy scrolls many hundreds of fragments of scrolls had been found. What the actual number of scrolls ... is we do not know, but it is certainly well over a hundred, possibly many more. ... Nothing like the number found had been expected or dreamed possible. Excavation has yielded hundreds more pieces. It will be a very long time before they have all been identified, transcribed, and properly published.

"The work on the scrolls is supervised by PÈRE DE VAUX of the École Biblique. The official members of the team are Abbé MILIK, Professor FRANK CROSS, and JOHN ALLEGRO. ... The members of the group have been assigned a room in the Museum, with a long desk extending the entire length of the room. On it are the essential books to aid in identification. Each man has his own magnifying glass. Immediately available are brushes

with hair of varying degrees of stiffness; castor oil, an indispensable aid for cleaning the fragments, although it must be used with great caution since it darkens the leather; and more recently alcohol, which can prove of great aid in bringing out the letters, but it too must be used with caution since excessive use of it tends to dissolve the ink.

"The leather fragments are often obscured by heavy incrustation, weathered by the elements and moisture, and rendered almost illegible from the chemical activity of the soil. If the piece is hard and brittle, it is placed in the humidifier where, in a shorter or longer lapse of time, it becomes soft and pliable. Then it is carefully brushed in order to remove as much of the alien substances as possible. Where such ministration does not yield the desired results, a brush with a very slight amount of castor oil is carefully used, and the letters which refuse to respond gradually come into view. It is obvious that this is a very slow process, requiring patience and care and time.

When the fragment has been properly cleaned, the worker must identify his text. . . . After identification the piece is put in its proper classification according to the book, whether biblical or non-biblical. Sometimes the piece is transcribed. All the identified fragments are placed between heavy glass plates about 18 by 10 centimeters. . . . At present there are more than a hundred and fifty such plates, all containing fragments. In many instances the fragments . . . are photographed in infra-red. . . . Needless to say, the infra-red picture frequently brings out the letters clearly; one can see in it what is difficult to see on the leather or papyrus. On the other hand, it is certainly true that the picture alone is insufficient because even the infra-red does not always bring out clearly what can be seen through the magnifying glass on the leather or papyrus.

"One feature about this collection of fragments is their great variety. Some are extremely small, containing a letter or two or three, others have a considerable amount of text; some must be measured in millimeters, others extend beyond the width of the whole column. Many of the fragments are on papyrus, and they are of varying shades of tan and brown; many others are on leather, and here too we have all shades of brown and tan represented. The dark ink stands out sharply on the light places, but when the leather is dark, as it not infrequently is, it is more difficult to make out the reading. More interesting is the variety of handwriting and of script. It is here that the palaeographer finds his special province and he must always be on the *qui vive* to determine what belongs to the idiosyncrasies of the particular scribal hand and what is of palaeographic significance, a matter of no little importance. . . .

"What impresses one again and again in examining these scroll pieces is the expertness of the scribe's writing. To be sure, there is not always the same degree of fine calligraphy. One writer will slant his letters to the right; another will write a straight, vertical script; another will make his letters as though they were formed of wedges. Sometimes the letters are very small, not more than two millimeters in height and width; at other times they are large and generous. In looking at the small letters under the magnifying glass one can receive a vivid impression of the sureness, competence, and uniformity

of the writing. We should learn something about scribal schools which produced such expert and deft work. . . . There is also diversity in language. We have come across texts written in palaeo-Hebrew, Aramaic, Greek, and possibly Nabatean. Again, we have a wide difference in the contents of the texts. Thus far every book of the Old Testament is represented with the exception of I-II Chronicles, which, however, were obviously known as is apparent from quotations or allusions. Portions of an Aramaic Enoch and of Jubilees have been identified. Thus far, contrary to earlier reports, nothing has been recovered from the Testaments of the Twelve Patriarchs. On the other hand, we now have at least two commentaries on Isaiah, one on leather and another on papyrus, the latter written in an exceptionally beautiful hand. Commentaries on Malachi and the Psalms have come to light. Thus, with the Habakkuk commentary, we now have evidence of a substantial commentary literature before or near the beginning of the Christian era. In addition to these, several phylacteries have also been found.

". . . More information will have to await publication [of the material]. The first volume to be published by the Oxford University Press should appear in the near future. But one or two comments may be worth adding. First of all, something on the importance of these scrolls. The so-called inter-testamental period now assumes an importance for biblical study which few of us had sufficiently appreciated. To be sure, all New Testament scholars have taken account of the literature of the apocrypha and pseudepigrapha, but the extent and character of this literature, its affinities with early Christian literature, and its place in the life of the Essenes now put our studies in an entirely fresh context. Not least of all we shall have to reckon with the large place that the prophets hold in this period, something we should, of course, have always known from the apocalypses. Again, we shall have to reconsider the importance of the Septuagint in our current textual criticism. Professor CROSS has discovered remarkable Septuagintal affinities in his work on I Samuel, and it is not likely that these affinities are confined to a single piece or fragment. Not least of all, palaeography assumes a place of major importance in our scholarly work. The

materials are abundant beyond all that we have ever been led to expect. We are now in a position not only to compare and contrast the palaeography of various documents but also to determine something of the sequence of palaeographic development. Palaeography is not a discipline to be learned overnight, and the possibilities of scientific precision have been accordingly enhanced.

"Thus far I have been commenting chiefly on the materials unearthed at Cave 4, topographically the most impressive and commanding of all the Qumran caves. Let me end by saying something about the Muraba'at materials. PÈRE DE VAUX, ABBÉ MILIK, and ABBÉ STARCKY are charged with the work on the materials coming from this region. Relatively few biblical texts have been found. What we do have is a highly stabilized textual tradition. . . . The sources of the masoretic tradition probably go back far deeper than the great majority of us have suspected until now. Besides the limited amount of biblical material discovered at Muraba'at, Aramaic contracts, letters from Simon bar Cocheba, and other similar secular documents have come to light. These materials are later than the Qumran materials, and bridge the gap between the first and second Jewish revolts. . . .

"I wish to close . . . by recording my appreciation to PÈRE DE VAUX, who is in general charge of all the materials, for permitting me to say a little about the work that is going on here. . . ."

Survey of Negev

Methodical exploration of the Negev region of southern Israel, square mile by square mile, is to be continued during next summer and subsequent summers by Dr. NELSON GLUECK, the well-known archaeologist who conducted a similar survey of Jordan sites before the war, when he was Director of the American School of Oriental Research in Jerusalem.

Under the auspices of the Hebrew Union College-Jewish Institute of Religion, of which Dr. GLUECK is president, and the LOUIS M. RABINOWITZ Foundation, this survey of the Negev has been going on for the last two summers. Well over one hundred and fifty ancient sites have been discovered, going back as far as the Chalcolithic period, with most belonging to Nabataean, Roman and Byzantine times.



BRIEF NOTICES OF RECENT BOOKS

The Near East—Earliest Cultures

The Near East and the Foundations for Civilization, by ROBERT J. BRAIDWOOD. x, 45 pages, 28 figures, 1 color plate. Oregon State System of Higher Education, Eugene, Oregon 1952 (Condon Lectures) \$1.00

Among the most exciting discoveries of the last few years are those which have narrowed, and almost closed, the gap between the food-gathering and the food-producing stages in human history. The Oriental Institute excavations in 1950-51 at Jarmo, in the Kurdish foothills of Northern Iraq, did more than any other expedition to illuminate the opening stages of food-production and the beginnings of established village life. Side expeditions to Karim Shahir and Palegawra cave re-

vealed progressively early material, the first perhaps foretelling the new order elaborated at Jarmo, the latter still clearly palaeolithic. It is therefore of great interest to have an account by the leader of this expedition of the evidence for the first great revolution in man's development. In the Condon Lectures for 1952, ROBERT BRAIDWOOD chose to deal with the stages of development in the Near East which preceded the appearance of "civilization." In an attractively presented essay he has given the results of his own work and of other recent discoveries in the Near East which have clarified the course of development that culminated in the urban civilization of the Early Dynastic period at the end of the fourth millennium B.C.

BRAIDWOOD first distinguishes between "civilization" and "culture" in

the anthropological sense and concludes that "civilization" is a culture in which one finds fully efficient food production, urbanization, formal political states, formal laws, formal projects and works, classes and hierarchies, writing and monumentality in art. Such civilization had at least two independent beginnings, in the Old World and in the New World. There may have been two separate experiments, but in any event the appearance of Mesopotamian civilization around 3500 B.C. is certainly the oldest. The first step in the development toward this ultimate achievement is the revolutionary change from a food-gathering to a food-producing economy probably about 6000 B.C. Now begins a settled village type of economy, with control over food supply. It is the author's belief that the new food produc-

THE SPRING OF CIVILIZATION

PERICLEAN ATHENS

Edited by CHARLES ALEXANDER ROBINSON, Jr.

Professor of Classics, Brown University

The highest culture of the greatest period in antiquity is presented through selected Greek dramas, historical works, philosophical writings (six complete tragedies by Aeschylus, Sophocles and Euripides, two Dialogues by Plato), accompanied by Dr. Robinson's commentaries linking them and explaining their place and meaning in Greek history. Chronological summary of ancient Greek history, a bibliography, maps, and 74 unparalleled photographs illustrating both the major and minor arts, and history from Thucydides and Xenophon, all presented to the general reader for the first time within the brief compass of a single volume. (464 pages)

Saul S. Weinberg, Associate Professor of Classical Languages and Archaeology, University of Missouri: "I like the idea of letting the Greeks speak for themselves, as it were, for they do it so much more eloquently than can we."

\$7.50

E. P. DUTTON & CO., INC.

300 FOURTH AVE.

NEW YORK 10, N. Y.

ing efficiency alone was not sufficient basis for the appearance of civilization: "It was the further development of social, political, moral and religious forces which made possible the integration of the growing populations into a functioning civilization." (page 6).

After defining and describing the Fertile Crescent in which civilization ultimately arose, BRAIDWOOD describes the various assemblages by area and in chronological order: the Natufian, Sialk I, Amouq A-B and Mersin, Jericho XVII-IX, Fayum-Merimde, and then the Iraq sequence—Palegawra, Karim Shahr, Jarmo, Hassuna, Halaf, Ubaid, Warka and the Proto-Literate phase. For each phase there is a drawing illustrating the characteristic features of the assemblage, so that in brief compass the reader has a visual record of the progress in material culture which preceded the beginnings of civilization. This development is further epitomized in a summary chart giving the essential characteristics of each phase in Iraq. Here and in the conclusions it is emphasized again that the change between pre-civilization and civilization came in realms of culture other than the technological and economic, that it came with new social institutions, new forms of thought and a new moral order. It was not, as CHILDE sees it, another technical revolution. BRAIDWOOD's succinct presentation of much new material is both highly informative and provocative; its brevity belies its importance for all students of human history.

The Near East—First Civilizations

Pottery from the Diyala Region, by PINHAS DELOUGAZ. xxii, 182 pages, 10 figures, 205 plates (17 in color), 3 tables. University of Chicago Press, Chicago 1952 (Oriental Institute Publications, Volume 63) \$30.00

The essay of ROBERT BRAIDWOOD reviewed above traces the development of culture from the earliest food-producing economy to the birth of civilization in the middle of the fourth millennium B.C. PINHAS DELOUGAZ takes up the story, in a more restricted sense, about where BRAIDWOOD leaves off. For this book is an account of the pottery found in the excavations of the Oriental Institute at Khafajah, Tell Asmar, Tell Agrab and Ishchali in the Diyala region of Iraq, from 1930 to

1938. The earliest of this pottery belongs to the Proto-Literate period, which includes the late Uruk and the whole Jemdet Nasr phase of the older terminology. There follows a full series running through the Early Dynastic phases, the Proto-Imperial and the various Imperial periods in Mesopotamia to the Old Babylonian period, a range in time from the mid-fourth to the early second millennium.

In dealing with such a vast mass, DELOUGAZ sought to devise a short-hand method of describing pottery. The first chapter describes the results of his search. The distinguishing features taken into account are material, technique of manufacture, surface finish including decoration, and form. For form a decimal system of notation, summarized in TABLE I, was devised. Other numerical systems indicate surface finish and decoration, provenience and date. Thus the beautiful polychrome vessel shown in color on PLATE I would be fully described as: $\frac{C.516.270}{074.560} [825]$

(956.76) [-3], or in the abbreviated notation as C.516.270. Actually, in this catalogue only this briefer indication of form is used. The method described here appears to this reviewer as the ultimate in the dehumanization of an essentially human study. DELOUGAZ himself foresaw the difficulties involved in trying to fit such man-made objects into his artificial classification. He perhaps underestimated the even greater difficulty of making men use such a system and possibly did not think at all of the highly detrimental effect its use would have by making unbridgeable the gap between the professional archaeologist and the lay audience to which he must communicate his findings if they are to have any real significance for the history of civilization.

The largest part of the text is a period-by-period description of the pottery itself. Here a division is made first by surface finish and decoration, and within the various classes form is the criterion for further division. With the aid of the photographs and drawings, additional profile and section drawings, and by the catalogue arranged by forms, the reader can get a more complete visual impression of the pottery of this long period than has ever been possible before. The picture is further enlarged in the final chapter of comparisons and conclusions in which the material from other sites and regions

is taken into account and the total agglomeration becomes the basis for the interpretations and generalizations which in the end make this book more than just a study of pottery. With the help of the plans of the four excavated sites, a map of Mesopotamia, and a table giving the stratigraphic correlation of all excavations in the Diyala region, the reader can appreciate the part this pottery played in writing the history of each site and, more broadly, of each period. This last section is of greatest interest to the non-professional, for nowhere has pottery been better appreciated both for what it is and for what it means.

The Near East—A General Study

New Light on the Most Ancient East, by V. GORDON CHILDE. 4th edition. xv, 255 pages, 111 figures, 40 plates, 2 maps. Frederick A. Praeger, New York 1953 \$6.50

Both the early village cultures of BRAIDWOOD's study and the Imperial civilizations treated by DELOUGAZ in his work on the Diyala pottery are considered, along with all other available information on Near Eastern archaeology, in CHILDE's general account, *New Light on the Most Ancient East*. First written in 1928, it was rewritten in 1934 and again in 1952; the American edition of this last version appeared in 1953. It is thus a well known book which has been much used as an introduction to an appreciation of the general problems and the present state of knowledge of this field of archaeology. The new edition is timely, for much information has been obtained through excavation in the last two decades. In essence this has been incorporated in the text through considerable enlargement of the sections on Predynastic Egypt and Dynasty I, on Syria and Palestine before 2000 B.C., on the earliest cultures of Mesopotamia, and on the Indus civilization. While these are the most striking additions, there has been a thorough revision of all the text as well as in the lists of figures and plates, which have been both revised and enlarged. The book is thus essentially a new one, designed to serve the same purpose as did its predecessor of the same name.

In describing the many variants of the successive cultures that existed in the different regions of the Near and

Middle East from the beginning of the food-producing economics to about 2000 B.C., CHILDE has throughout laid emphasis on the cultural similarities that connect seemingly remote regions, on the individual traits which serve as the links, sometimes weak and tenuous when considered alone but in the aggregate offering convincing evidence of cultural connections. This is fundamentally a support of the diffusionist views and these are summarized in the final chapter on "Proofs of Diffusion." Few archaeologists now oppose the diffusionists; none has stated his case more succinctly than has CHILDE.

This new brief statement of the present state of our knowledge of Near Eastern archaeology will continue to serve as an invaluable introduction. While it cannot claim to be more than a starting point, there is available here all that is necessary to lead the student deeper into any special field which he may wish to investigate. CHILDE's greatest contributions to archaeology are his syntheses, especially this book and its companion, *Dawn of European Civilization*, which are almost unique in English and without which the important discoveries of the more specialized archaeologists might never be

made known to the beginning student and the layman and would thus be doomed to sterility.

SAUL S. WEINBERG
University of Missouri

The Boscoreale Villa Murals

Roman Wall Paintings from Boscoreale in the Metropolitan Museum of Art, by PHYLLIS WILLIAMS LEHMANN. xvi, 230 pages, 42 plates. Archaeological Institute of America, Cambridge, Massachusetts 1953 (Monographs on Archaeology and Fine Arts, Volume V) \$12.00

One of the treasures of the Metropolitan Museum is a group of paintings from a villa near Boscoreale. PHYLLIS WILLIAMS LEHMANN's intensive study may well be definitive so far as description and factual information are concerned. Invaluable corrections of previous errors and confusions are accompanied by parallels from Kara Kusch to Pompeii and by iconographic references to all fields of art, major and minor. There are comprehensive indexes and bibliographies and a brief appendix which reaches the harmless conclusion that P. Fannius Synistor owned the villa during the early Imperial

decades and that L. Herrennius Florus may have succeeded him. The excellent plates illuminate many of the stylistic peculiarities noted by the author and the text illustrations are usually within reach of the appropriate passages. The book also has the great merit of offering a coherent explanation of the decoration of the villa's two most significant rooms and a valuable appreciation of the villa as a whole.

Interpretation of the paintings of the "Hall of Aphrodite," divided between Naples and New York, is based on the theory that the room was the location of *dromena* of a cult of Aphrodite and Adonis. Many of the figures are described as rapt, expecting some revelation like the participants themselves, awaiting, in fact, the resurrection of Adonis. Their very eyes are fixed on the spot where the mystery is revealed. The well documented interpretations of the individual paintings seem convincing, but full acceptance of the concept that this "coherent religious ensemble," "sacramental" not "narrative," represents a crystallized incident given permanent symbolic meaning requires a mystic ecstasy to which not all are susceptible.

The decoration of the neighboring

THE FARWELL COLLECTION

by Franklin P. Johnson

Number VI in the series of monographs on Archaeology and Fine Arts sponsored by the ARCHAEOLOGICAL INSTITUTE OF AMERICA and the COLLEGE ART ASSOCIATION OF AMERICA. Published with the aid of a grant from the University of Chicago.

The volume represents a careful study of a collection of Daunian Pottery of the fifth and fourth centuries before Christ, excavated in 1944 and 1945 by Captain Byron Farwell in a cemetery in the vicinity of Ortona, Italy. Fifteen grave-groups are represented as well as about 100 other pieces of handmade and wheelmade ware from the cemetery. 76 pages, 20 plates in offset.

Price—\$3.15 to members of either
learned Society
\$4.15 to non-members

REVISED EDITION

A MANUAL OF ARCHAEOLOGICAL FIELD METHODS

Edited by ROBERT F. HEIZER
*Director, University of California
Archaeological Survey.*

This handbook is an introduction and guide to students of prehistory. It makes explicit the aims and methods employed in the excavation and systematic recording of archaeological remains. It describes: site survey; methods of excavation; recording excavation data; collecting artifacts; excavation and recording of skeletal remains; stratigraphy and chronologic methods; archaeological photography; recognition, care, preservation, and cataloguing of artifacts.

In addition to illustrative references cited in the text, there is a general reference bibliography on field methods, theory and aims of archaeology, functional interpretation of data, and culture classification methods. The manual includes maps, drawings, and figures illustrating procedure, and reproductions of forms and recording sheets suggested for noting field data.

AMERICAN ANTIQUITY says: "... probably the best available field manual."

92 pages, 8½ x 11, photolith, illustrated, spiral bound —\$2.00

FIELD NOTEBOOK. Especially prepared for the archaeological field worker, 6 x 4, ruled, perforated, per book 30 cents.

Order From

THE NATIONAL PRESS
435 Alma St., Palo Alto, California

cubiculum, fully preserved in New York, has suffered much misunderstanding. The author demolishes theories that we have here simply reflections of various stage sets. Everything portrayed is persuasively interpreted in terms of a late Republican or early Imperial villa property, a combination of urban and agricultural features. Sanctuaries, grottoes, gardens, towers, silo-like buildings can all be paralleled in other landscape paintings and in the writings of Varro, Vitruvius, Pliny, Columella, or Horace and Ovid. The whole decoration is the projection of the owner's yearnings for a property more luxurious than his own, with frequent and natural emphasis on symbols of fertility and annual reproduction, Adonis gardens and phallic emblems. Here, as elsewhere in the villa, we find a "mingling of the real and imagined, the very hall-mark of this house"—witness the *cubiculum* window surrounded by imaginary garden prospects. And the connection with the Hall of Aphrodite? In this room, at his ease, the owner might dream of the more practical aspects of deities of productivity.

The technical features of the paintings discussed are as noteworthy as their aesthetic or symbolic features. The rooms preserve the fiction of a consistent lighting of the pseudo-architecture, especially in the Hall of Aphrodite and in the *cubiculum* (where the focal lighting point is the rear window). Several hands were at work: the duplication of panels in the *cubiculum* especially reveals the work of a master painter and two assistants. The perspective of the paintings is healthily discussed and the authoritarianism of Renaissance concepts is rightly challenged. Here, while accepting the general principle of converging parallels, the artists felt at liberty to single out special areas for emphasis. So we get a number of perspectival "abnormalities" which the author happily likens to movie "close-ups." It should be noted, too, that the plastic quality of the decoration was partly due to the use of tempera on a fresco ground. Particularly interesting is the fact that in these two rooms are assembled almost all the features—even monochrome landscapes—that scattered remains show were characteristic of the Second Style.

The enthusiasm of archaeologists sometimes renders their aesthetic judgments unreliable. But we can hardly fail to agree with the author that these

masterpieces of Second Style domestic mural painting show that the original owner must have been a man of exceptional taste and that his successors deserve our thanks for refusing to modernize the original decoration.

CHRISTOPHER M. DAWSON
Yale University

Civilization—the Long View

The Tree of Human History, by ALAN HOUGHTON BRODRICK. 243 pages, 5 maps. Philosophical Library, New York 1952 \$4.75

This book by a peripatetic English journalist explores the miracle of civilization by concentrating on the proto-historic stages immediately preceding the appearance of various well known high civilizations throughout the world. The antecedents of a dozen such are surveyed to illustrate facets of this phenomenon. Maps of some indicate their generalized geography and key archaeological locations.

When writing, formal architecture and the national spirit arrive to crystallize a community in history the author moves on; but he shows that each civilization's hall-marks were already largely established locally in protohistory. The role of these prior cultural groups in producing any given civilization is repeatedly pointed out. Examples of the interplay of local cultural forerunners leading to the full fruition of a civilization are given from all parts of the world and from various periods.

A number of enlightening digressions on arguable questions concern the significance of speech and tool-making skills as criteria for distinguishing man from ape; the economic meaning of the unsatisfactory term "Neolithic" and the diverse elements composing it, including a now well recognized unexplained pre-pottery stage; the impact of nineteenth century discoveries of Egyptian civilization on our civilization's thinking, and the ensuing struggle to gain proper perspective upon pre- and protohistoric cultures continually in flux; and the exciting prospect proffered by the Dead Sea Scrolls of historical archaeology confirming and enlarging known history.

Perhaps prehistoric physical types are too simply linked to stone age tool types; the occurrences of the earliest burial forms and art, whether Palaeolithic or Mayan, seem too rigidly inter-

preted; preludes to early civilizations may be somewhat unbalanced, as depicted, because of the need to generalize from skimpy, diverse, specific detail; and the discussion on writing and alphabets through Phoenicia, Crete and Greece is already somewhat dated, owing to recent progress. But there are many cheerful facts about Sumerian, Phoenician and Roman influence on our writing, weights, laws and religion; and the points criticized are less important considerations than the book's successful attempt to open the door on perspectives of human history. It should take the sting out of national, racial and cultural antagonisms, reduce ignorance and increase tolerance of cultures other than one's own. The darn things have been different for thousands of years and were set in their ways before they even started, so relax and enjoy them!

BRUCE HOWE

*Peabody Museum
Harvard University*

Archaeologists are People

Babylon, der versunkene Weltstadt und ihr Ausgraber Robert Koldewey, by WALTER ANDRAE. 252 pages, 4 plates, 19 figures. Walter de Gruyter, Berlin 1953 DM. 18.40

Spadework in Archaeology, by Sir LEONARD WOOLLEY. 124 pages, 15 plates. Philosophical Library, New York 1953 \$4.75

Digging beyond the Tigris, by LINDA BRAIDWOOD. xii, 297 pages, 50 figures, 3 maps and diagrams. Henry Schuman, New York 1953 \$4.50

As one reads of excavations and discoveries it is only natural to wonder what sort of men undertake to travel to distant places, to cut themselves off from normal life and to pursue the elusive traces of ancient man. Without giving much thought to the matter, one may be inclined to believe that the lives of these people are full of glamor, that they are constantly making spectacular discoveries or are on the verge of such discoveries. One does not realize the labor, the long preparation, even the sacrifices which they make to bring back results.

Each of the three books reviewed here tells something about the personality of the archaeologist and each represents a different generation in the still rather new profession of studying the material remains of ancient man.

ANDRAE, himself a famous scholar,

has written a biography of KOLDEWEY, his teacher, who was born in 1855 and began exploration while SCHLIEMANN the pioneer was still at work. But KOLDEWEY's point of view was different from SCHLIEMANN's. Trained as an architect, he was disciplined to accuracy and his chief interest was in reconstructing the appearance of ancient buildings. This he did with spectacular success at Assos, at Lesbos, in southern Italy, in northern Syria, and finally at the city which he literally brought back to life, Babylon. His guiding principle was one which no archaeologist should forget: *Finish all the work possible in the field*. When he died in 1925, he had many accomplishments to look back upon. ANDRAE has given an account of KOLDEWEY's life, emphasizing the archaeological work but also explaining his motivation. KOLDEWEY once said, half in jest: "To me . . . an old wall is dearer than a flowering almond tree—but tastes vary." ANDRAE knew him well and in this volume brings him closer by including personal touches. One cannot help feeling sympathy for this pioneer excavator when one learns that at the site of Neandria in the Troad, KOLDEWEY attempted to solve the eternal problem of food supply by

trying to live on concentrated food pills. ANDRAE reports that he almost starved to death before he abandoned this diet.

Sir LEONARD WOOLLEY is of the second generation of archaeologists, the period when spectacular discoveries were made and received wide publicity. WOOLLEY himself made a great many of them. In this little book, a personal account, he attempts "to show how very alive the science of archaeology is." Unfortunately, he does not succeed. The approach is casual and a great many things are not explained. It is doubtful whether anyone without previous knowledge of WOOLLEY's accomplishments could fully appreciate the work which he describes here. Interesting incidents are mentioned but the book has no plan and it is valuable chiefly because of the author's identity. He is one of the top men in the field but the uninitiated would hardly know it from reading this volume.

With the BRAIDWOODS' work we reach the ultimate in organization, in preparation and in scientific work, and we also have a book which explains everything we want to know. From the moment the expedition is conceived we follow its development. We proceed to

the Middle East, we watch camp being set up and workrooms being constructed, we go with the excavators to the dig, we watch the finds come out of the ground and see them recorded. We share in the difficulties of keeping house in the middle of nowhere, and we see how it is even possible to keep two American children happy in the wilds of Iraq.

The book is an excellent introduction to the field archaeologist's life. Conditions of course vary, and the BRAIDWOODS excavate in a region which is one of the more difficult to work in. But Mrs. BRAIDWOOD makes it seem, as doubtless she also did on the dig, possible, livable and even delightful. The BRAIDWOODS' excavation methods are meticulous, their recording system complicated and accurate; everything about their expedition is exemplary. For a young person contemplating the possibility of an archaeological career, Mrs. BRAIDWOOD's book is one of the first to read. If this kind of life does not seem attractive, the young man or woman should look elsewhere for a career. If it sounds fascinating, he should remember that it is much easier to read about it than to live it!

G. D. W.

The Society for the Promotion of Hellenic Studies (founded 1879)

The Society for the Promotion of Roman Studies (founded 1910)

The Societies were founded to promote knowledge of the Hellenic and Roman worlds, their archaeology, art and history.

Each Society holds quarterly meetings and publishes a *Journal* containing well-illustrated contributions of great importance to research, and reviews of recent publications. They also maintain, jointly, a Library of some 25,000 books.

The annual subscription of £2 entitles Members
to receive current issue of the *Journal of Hellenic/Roman Studies*,
to use the Library,
to attend all meetings of the Societies.

For particulars apply to the Secretary of the appropriate Society,

50 Bedford Square • London, W. C. 1, England

NEW BOOKS

Selected at the editorial offices from various sources, including bibliographical publications, publishers' announcements and books received. Prices have not been confirmed.

ARKELL, A. J. *Shaheinab: An Account of the Excavation of a Neolithic Occupation Site carried out for the Sudan Antiquities Service in 1949-50.* xix, 114 pages, 57 figures, 43 plates. Oxford University Press, New York 1953 \$9.00

BELL, H. IDRIS. *Cults and Creeds in Graeco-Roman Egypt (Being the Forwood Lectures for 1952).* x, 117 pages. Philosophical Library, New York 1953 \$4.75

CALZA, GUIDO. *Scavi di Ostia. Volume 1: Topografia generale.* 248 pages, 53 figures, 59 plates, 15 plans. La Libreria dello Stato, Rome 1953 18,000 Lire

CONTENAU, GEORGES. *Everyday Life in Babylon and Assyria.* xv, 324 pages, 24 plates, 31 drawings in text. St. Martin's Press, New York 1954 \$5.00

CRAWFORD, O. G. S. *Castles and Churches in the Middle Nile Region.* 47 pages, 12 plates, 2 maps, 30 plates. Sudan Antiquities Service, Khartoum 1953 (Occasional Papers No. 2) 5s.

DELAET, SIEGFRIED J. *L'archéologie et ses problèmes.* 156 pages, 3 figures, 12 plates. Latomus, Berchem-Bruxelles 1954 (Collection Latomus, Vol. XVI) 200 fr.

GOODCHILD, R. G. (compiler). *Tabulae Imperii Romani (Map of the Roman Empire based on the International 1:1,000,000 Map of the World).* Sheet H.I.33: *Lepcis Magna (Map of Roman Libya-West Sheet [Tripolitania]).* Sheet H.I.34: *Cyrene (Map of Roman Libya-East Sheet [Cyrenaica]).* Society of Antiquaries, London 1954 Map and text 7s. 6d. each; map only 5s. each

HADAS, MOSES. *Ancilla to Classical Reading.* xiii, 397 pages. Columbia University Press, New York 1954 \$4.75

LORD METHUEN. *Normandy Diary: Being a Record of Survivals and Losses of Historical Monuments in North-Western France, together with those in the Island of Walcheren and in that Part of Belgium traversed by 21st Army Group in 1944-45.* xxv, 263 pages, 35 figures, 102 plates (6 in color), 1 map. The British Book Centre, Inc., New York 1954 \$12.50

MOSS, A. A. *The Application of X-rays, Gamma Rays, Ultra-violet and Infra-red Rays to the Study of Antiquities.* 16 pages, 1 figure, 8 plates. The Museums Association, London 1954 (Handbook for Museum Curators, Part B—Museum Technique, Section 4) 4s.

MUKERJEE, RADHAKAMAL. *The Social Function of Art.* xxiv, 280 pages, frontispiece in color and 59 figures. Philosophical Library, New York 1954 \$10.00

ORLINSKY, HARRY M. *Ancient Israel.* 201 pages, 5 maps, 1 chart. Cornell University Press, Ithaca 1954 \$2.50

RICE, DAVID TALBOT. *Byzantine Art.* 272 pages, 16 figures, 64 plates, 2 maps. Penguin Books, Baltimore 1954 \$0.85

ROBINSON, C. A., JR. *The Spring of Civilization: Periclean Athens.* xv, 464 pages, 74 plates, 2 maps. E. P. Dutton, New York 1954 \$7.50

ROSENTHAL, ERNST. *Pottery and Ceramics.* 317 pages, 23 figures, 24 plates. Penguin Books, Baltimore 1954 \$0.85

SCHWEITZER, BERNHARD. *Platon und die bildende Kunst der Griechen.* 96 pages, 37 figures. Max Niemeyer Verlag, Tübingen 1953 DM 14

UNDERWOOD, ASHWORTH (editor). *Science, Medicine and History: Essays on the Evolution of Scientific Thought and Medical Practice, written in honor of Charles Singer.* 2 volumes, 1210 pages, 106 plates. Oxford University Press, London 1953 31s.

WOODBURY, RICHARD B. and AUBREY S. TRIK. *The Ruins of Zaculeu, Guatemala.* Volume I: xviii, 324 pages, frontispiece and 168 figures. Volume II: Frontispiece, 129 figures. United Fruit Company, Boston 1953

THE MEDIAEVAL ACADEMY OF AMERICA

was founded in Boston in 1925 and incorporated under the laws of the Commonwealth of Massachusetts "to conduct, encourage, promote and support research, publication, and instruction in mediaeval records, literature, languages, arts, archaeology, history, philosophy, science, life and all other aspects of mediaeval civilization by publications, by research, and by such other means as may be desirable, and to hold property for such purpose." Membership in the Academy is open to all persons interested in mediaeval studies.

SPECULUM, published quarterly since 1926 by the Mediaeval Academy of America, presents articles and reviews concerned with mediaeval architecture, armor, fine arts, geography, heraldry, law, literature, music, numismatics, philosophy, science, and social and economic institutions of the Middle Ages.

THE MEDIAEVAL ACADEMY OF AMERICA

1430 MASSACHUSETTS AVENUE, CAMBRIDGE 38, MASSACHUSETTS

Princeton

UNIVERSITY



PRESS

Once a Riddle—Now a New Source of Scholarly Excitement!

THE Pylos Tablets

By *EMMETT L. BENNETT, Jr.*

With the Spring issue of *Archaeology* came the report of a discovery that stirred the archaeological world—the deciphering of the ancient Minoan script that had baffled scholars for many years.

Here in book form is the full transcript of one of the largest bodies of Minoan writing that has yet been discovered—the famous Pylos tablets, dating from the 2nd millennium B.C., and found in 1939.

133 pages. \$2

Mycenae

An Archaeological History and Guide

By *ALAN J. B. WACE*

A masterly reconstruction of the Bronze Age Civilization of Mycenae, the center of Achaian culture, about which the recent decoding will open new insights.

168 pages, 110 plates. \$15

Order from your bookstore, or from

PRINCETON UNIVERSITY PRESS, Princeton, New Jersey

June 24, 1954

Beyond the reach of cruise ships

*and the individual traveler—repeating for the nineteenth time
a fabulous itinerary featuring the cities, sites and
scenic beauty of the magic interiors of Egypt,
the Middle East, Greece, Turkey,
and Dalmatia . . .*

1955 ODYSSEY

FEBRUARY 25 TO APRIL 16

Since 1926, the Odyssey has taken more than twenty-five hundred Americans to places usually reserved for fireplace dreaming. In comfort and at moderate cost.

The Main Odyssey (February 25-April 16) is limited to twenty-five members and will visit Egypt, Lebanon, Syria, Iraq, Jordan, Greece. Two post-Odyssey extensions of ten days each will offer Turkey and North Greece—Dalmatia.

Lands bordering the Eastern Mediterranean have changed. For in this colorful region of intellectual interest and scenic beauty you now find good roads, good hotels, good food, good automobiles. And the occasional use of American planes, owned and operated by regular lines, saves time and spares the tedium of empty miles.

Odyssey rendezvous points are Rome and Cairo. Members have the choice of TWA super-Constellations or the fine ships of the Italian and American Export Lines.

Odyssey is now associated with Frew Hall Travel, Inc. In addition to operating its own groups, it is also able to plan individual travel both to the usual and to out-of-the-way parts of the world.

B. D. MacDonald

ODYSSEY CRUISES, INC.

67 East 59th Street, New York

Murray Hill 8-0037

Rome
Cairo
Memphis
Sakkarah
Assuan
Philae
Luxor
Karnak
Dendera
Beirut
Sidon
Tyre
Beaufort
Byblos
Cedars
Baalbek
Damascus
Palmyra
Homs
Water wheels of Hama
Aleppo
Latakia
Crusader Coast
Krak des Chevaliers
Baghdad
Babylon
Ctesiphon
Kerbela
Khadimain
Petra
Jerusalem
Bethlehem
Jericho
Jerash
Athens
Corinth
Mycenae
Tiryns
Epidaurus
Sparta
Mistra
Olympia
Delphi
Knossos
Delos
Smyrna
Pergamon
Sardis
Ephesus
Miletus
Didyma
Istanbul
Hanging Monasteries
Salonika
Macedonia
Montenegro
Cattaro
Ragusa
Trau
Spalato
Venice
Paris

